



CONSTRUCTION DOCUMENTS
FOR
SKIDATA PAY MACHINES INSTALLATION

UNIVERSITY OF CALIFORNIA
LOS ANGELES CAMPUS
LOS ANGELES, CALIFORNIA

MAY 2025

CERTIFICATION

SKIDATA PAY MACHINES INSTALLATION

ARCHITECTURAL BIDDING DOCUMENTS PREPARED BY:

WALTER P. MOORE
633 W 5th St, Suite 7200
Los Angeles, CA 90071
310-254-1900 713-394-5727

Signed by:

D26EFCB7A02829D

Eric Pagan

(Signature of an officer of the firm named above)

9/30/2024

(Date)

Eric Pagan

(Typed Name)

Principal

(Title)

CERTIFICATION:

(Affix professional registration stamp of the person named above with signature and expiration date.)



CERTIFICATION

SKIDATA PAY MACHINES INSTALLATION

MECHANICAL, ELECTRICAL AND PLUMBING BIDDING DOCUMENTS PREPARED BY:
MEP California Engineering Corp
1920 Main Street Suite 820
Irvine, CA 92614
949-516-6480, 949-516-6483

Signed by:

Ali Safaian

9180CDE76A1B27B

(Signature of an officer of the firm named above)

9/30/2024

(Date)

Ali Safaian

(Typed Name)

Principal

(Title)

CERTIFICATION:

(Affix professional registration stamp of the person named above with signature and expiration date.)



CERTIFICATION

SKIDATA PAY MACHINES INSTALLATION

STRUCTURAL BIDDING DOCUMENTS PREPARED BY:
Petra Structural Engineers
17981 Sky Park Circle, Suite O
Irvine, CA 92614
949-748-7170

Signed by:

Peter Sarkis

9323BA9D784C4FE

9/30/2024

(Signature of an officer of the firm named above)

(Date)

Peter Sarkis

(Typed Name)

Peter Sarkis

(Title)

CERTIFICATION:

(Affix professional registration stamp of the person named above with signature and expiration date.)

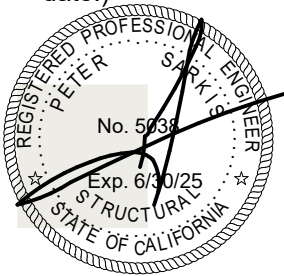


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ADVERTISEMENT FOR BIDS

Subject to conditions prescribed by the University of California, Los Angeles, sealed bids for a lump sum contract are invited for the following work:

SKIDATA PAY MACHINES INSTALLATION
Project Number 907057.01

DESCRIPTION OF WORK: The project consists of an upgrade to the existing software and components of the end-of-life Skidata parking equipment throughout Medical Building and Medical Plaza parking structures (MP100, 200 and 300), Jules Stein, Ronald Reagan Hospital and Luskin Conference Center and the provision of additional pay machines as well as new License Plate Recognition (LPR) at each entry and exit lane at every structure.

The upgraded system shall include a camera and light with wiring in conduit set back approximately. 50' from the existing gate arms in order to capture the license plates for faster processing upon exiting.

Medical Plaza level B1 shall be re-striped (areas adjacent to MP100, 200 and 300) to integrate all parking stalls onto the same ticketing system (Skidata) with traffic reconfiguration. Unused booths where personnel were previously staffed and stationed shall be removed.

The Skidata systems currently allow for operation of the parking gate arms, ticket dispensers and receivers and payment system used for parking in the project locations mentioned. The system also provides cash and credit card payments for customers visiting UCLA to ensure a smooth process entering and leaving the site. The Skidata system houses the main server for communication and transactions.

Due to the high traffic use by patients, visitors and staff, all work shall be limited to nights and weekends. The work shall be sequenced in order to keep the system operational.

The estimated construction cost is \$4,117,000.00.

BIDDING DOCUMENTS:

1. Bidding Documents will be available beginning on May 19, 2025 and will be issued at:
UCLA Online Planroom
Website: <https://www.uclaplanroom.com/>
2. Bidders may view the Bidding Documents online at the UCLA Online Planroom website and download the documents at no cost to user.

BID DEADLINE: Bids will be received only at the following location:

Contracts Administration
University of California, Los Angeles
1060 Veteran Avenue, Suite 330
Box 951365
Los Angeles, California 90095-1365
310-825-7015

and must be received at or before:

2:00 p.m., June 17, 2025

MANDATORY PRE-BID CONFERENCE & JOB WALK: A mandatory Pre-Bid Conference will be conducted on May 27, 2025. A Mandatory Pre-Bid Job Walk will be conducted on May 29, 2025. Only bidders who participate in both the Conference and the Job Walk, in their entirety, will be allowed to bid on the Project as prime contractors.

Mandatory Pre-Bid Conference via ZOOM: The mandatory Pre-Bid Conference will be conducted via ZOOM and shall begin promptly at 10:00 a.m. Participants must log onto the ZOOM meeting at or before 10:00 a.m. (See ZOOM meeting instruction below.) Persons logging in later than said time will not be allowed to bid on the Project as prime contractors.

Join Zoom Meeting: <https://ucla.zoom.us/j/92838971181>
Meeting ID: 928 3897 1181

One tap mobile

+12133388477, 98670287466# US (Los Angeles)
+16692192599, 98670287466# US (San Jose)

Dial by your location

1 213 338 8477 US (Los Angeles)
1 669 219 2599 US (San Jose)
1 971 247 1195 US (Portland)
1 253 215 8782 US (Tacoma)
1 346 248 7799 US (Houston)
1 602 753 0140 US (Phoenix)
1 720 928 9299 US (Denver)
1 301 715 8592 US (Washington DC)
1 312 626 6799 US (Chicago)
1 470 250 9358 US (Atlanta)
1 646 558 8656 US (New York)
1 651 372 8299 US (Minnesota)
1 786 635 1003 US (Miami)

Find your local number: <https://ucla.zoom.us/u/adJIVaI7XH>

Mandatory Site Visit: The mandatory Job Walk will be conducted at the project site and shall begin promptly at 10:00 a.m. Participants shall meet at Parking Structure 1 701 Gayley Ave, Los Angeles, CA 90024 at or before 10:00 a.m. Persons arriving later than said time will not be allowed to bid on the Project as prime contractors. Refer to the UCLA Campus Map at <https://map.ucla.edu/>. For further information, contact Valerie Bottaioli at (310) 689-9942.

NOTE: Bidders are advised that parking may be difficult. Bidders should allow ample time to drive to the above location in heavy traffic, find a parking space, walk to the designated Meeting Room prior to the required time. It is currently anticipated that the Site Visit will last at least 2 hours.

LICENSE REQUIREMENTS: The successful Bidder will be required to have the following California current and active contractor's license at the time of submission of the Bid:

B License (General Building)

PREQUALIFICATION: To be allowed to submit a bid, Bidders must have the minimum experience set forth in the Prequalification Questionnaire contained in the Bidding Documents and posted on the UCLA Online Planroom website. Bidder's completed Prequalification Questionnaire must be received at the above-listed University Contracts Administration office in a sealed envelope, or uploaded to the UCLA Online Planroom website, no later than:

3:00 p.m., June 3, 2025

Every effort will be made to ensure that all persons have equal access to contracts and other business opportunities with the University within the limits imposed by law or University policy. Each Bidder may be required to show evidence of its equal employment opportunity policy. The successful Bidder and its subcontractors will be required to follow the nondiscrimination requirements set forth in the Bidding Documents and to pay prevailing wage at the location of the work.

In addition, the University is committed to promoting and increasing participation of small business enterprises (SBEs) and disabled veteran business enterprises (DVBES) relating to all goods and services covered under the awarded agreement, subject to any and all applicable obligations under state and federal law, and University policies. The awarded contractor shall make best efforts to provide qualified SBEs and DVBES with the maximum opportunity to participate. Please email ContractsAdministration@capnet.ucla.edu for further information.

The work described in the contract is a public work subject to section 1771 of the California Labor Code.

No contractor or subcontractor, regardless of tier, may be listed on a Bid for, or engage in the performance of, any portion of this project, unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 and 1771.1.

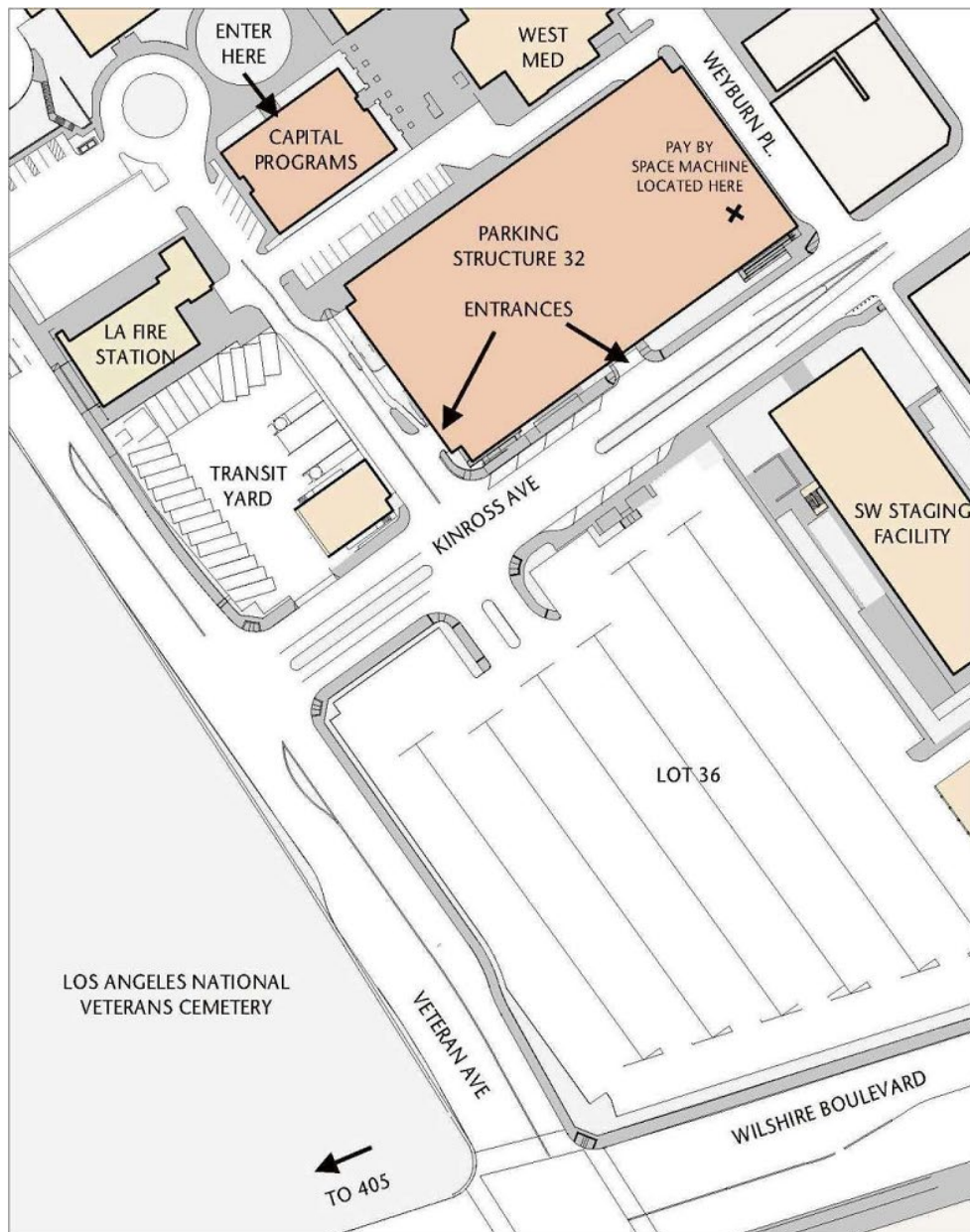
This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The successful Bidder shall pay all persons providing construction services and/or any labor on site, including any University location, no less than the UC Fair Wage (defined as \$15 per hour) and shall comply with all applicable federal, state and local working condition requirements.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
(Visit our website at: <https://www.uclaplanroom.com/>)

CAMPUS MAP



CAPITAL PROGRAMS BUILDING:

1060 Veteran Avenue
Los Angeles, CA 90095
Contracts Tel: 310-825-7015

OFFICE HOURS:

Monday through Friday
8:00am to 12:00pm and
1:00pm to 4:00pm

DIRECTIONS:

Exit 405 Fwy at Wilshire Blvd.
Take Wilshire Blvd. east towards Westwood.
Turn left (north) onto Veteran Ave.
Turn right (east) onto Kinross Ave. and into
UCLA Parking Lot 36/Parking Structure 32
Pay for and obtain a parking permit at a Pay Station
(southeast corner of Parking Structure 32).
The Capital Programs Building is located just north of
Parking Structure 32.

PROJECT DIRECTORY

Project Name	SKIDATA PAY MACHINES INSTALLATION				
Project Number	907057.01				
Location	University of California, Los Angeles				
University	The Regents of the University of California				
University Representative	Valerie Bottaioli 731 Charles E. Young Drive South, 3rd Floor Los Angeles, CA 90095 (310) 689-9942				
All bidding inquiries shall be directed only to:	Valerie Bottaioli EMAIL: vbottaioli@fm.ucla.edu				
Design Professional:	Walter P. Moore 633 W 5th St, Suite 7200 Los Angeles, CA 90071 310-254-1900 713-394-5727				
Design Professional Consultants:	MECHANICAL, ELECTRICAL, AND PLUMBING ENGINEERING MEP California 1920 Main Street Suite 820 Irvine, CA 92614 949-516-6480, 949-516-6483 STRUCTURAL ENGINEERING Petra Structural Engineers 17981 Sky Park Circle, Suite O Irvine, CA 92614 949-748-7170				
Address for Stop Notices:	<table><tbody><tr><td>Deliver to:</td><td>UCLA Capital Programs Project Accounting 1060 Veteran Ave., Suite 330 Los Angeles, CA 90024-1365</td></tr><tr><td>Mail to:</td><td>UCLA Capital Programs Project Accounting 1060 Veteran Avenue, Suite 330 Box 951365 Los Angeles, CA 90095-1365</td></tr></tbody></table>	Deliver to:	UCLA Capital Programs Project Accounting 1060 Veteran Ave., Suite 330 Los Angeles, CA 90024-1365	Mail to:	UCLA Capital Programs Project Accounting 1060 Veteran Avenue, Suite 330 Box 951365 Los Angeles, CA 90095-1365
Deliver to:	UCLA Capital Programs Project Accounting 1060 Veteran Ave., Suite 330 Los Angeles, CA 90024-1365				
Mail to:	UCLA Capital Programs Project Accounting 1060 Veteran Avenue, Suite 330 Box 951365 Los Angeles, CA 90095-1365				
Address for Demand for Arbitration:	Western Case Management Center 6795 N. Palm Ave., 2nd Floor Fresno, CA 93704				
A copy of the Demand for Arbitration must be sent to:	University of California Office of the General Counsel 1111 Franklin St., 8th Floor Oakland, CA 94607-5200				

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ARTICLE 1
DEFINITIONS

- 1.1 Except as otherwise specifically provided, definitions set forth in the General Conditions or in other Contract Documents are applicable to all Bidding Documents.
- 1.2 The term "Addenda" means written or graphic instruments issued by University prior to the Bid Deadline which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.
- 1.3 The term "Alternate" means a proposed change in the Work, as described in the Bidding Documents which, if accepted, may result in a change to either the Contract Sum or the Contract Time, or both.
- 1.4 The term "Bid Deadline" means the date and time on or before which Bids must be received, as designated in the Advertisement for Bids and which may be revised by Addenda.
- 1.5 The term "Bidder" means a person or firm that submits a Bid.
- 1.6 The term "Bidding Documents" means the construction documents prepared and issued for bidding purposes including all Addenda thereto.
- 1.7 The term "Estimated Quantity" means the estimated quantity of an item of Unit Price Work.
- 1.8 As used in these Instructions to Bidders, the term "Facility" means the University's Facility office issuing the Bidding Documents.
- 1.9 The term "Lump Sum Base Bid" means the sum stated in the Bid for which Bidder offers to perform the Work described in the Bidding Documents, but not including Unit Price items or Alternates.
- 1.10 The term "Planholder" means a person or entity known by the Facility to have received a complete set of Bidding Documents and who has provided a street address for receipt of any written pre-bid communications.
- 1.11 The term "Unit Price" means an amount stated in the Bid for which Bidder offers to perform an item of Unit Price Work for a fixed price per unit of measurement.
- 1.12 As used in these Instructions to Bidders, the term "Business Day" means any day other than a Saturday, a Sunday, and the holidays specified herein, and to the extent provided herein, if the Facility or applicable office of the University is closed for the whole of any day, insofar as the business of that office is concerned, that day shall be considered as a holiday for the purposes of computing time in these Instructions to Bidders. Holidays include January 1st, the third Monday in January, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, November 11th, Thanksgiving Day, December 25th, and every day designated by the University as a holiday.

See Supplementary Instructions to Bidders

ARTICLE 2
BIDDER'S REPRESENTATIONS

- 2.1 Bidder, by making a Bid, represents that:
- 2.1.1 Bidder has read, understood, and made the Bid in accordance with the provisions of the Bidding Documents.
- 2.1.2 Bidder has visited the Project site and is familiar with the conditions under which the Work is to be performed and the local conditions as related to the requirements of the Contract Documents.
- 2.1.3 The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.
- 2.1.4 At the time of submission of the Bid, Bidder and all Subcontractors, regardless of tier, have the appropriate current and active licenses issued by the State of California Contractors State License Board for the Work to be performed and any licenses specifically required by the Bidding Documents. If Bidder is a joint venture, at the time of submission of the Bid, Bidder shall have the licenses required by the preceding sentence in the name of the joint venture itself. The State of California Business and Professions Code, Division 3, Chapter 9, known as the "Contractor's License Law," establishes licensing requirements for contractors.
- 2.1.5 Bidder has read and shall abide by the nondiscrimination requirements contained in the Bidding Documents.

- 2.1.6 Bidder has the expertise and financial capacity to perform and complete all obligations under the Bidding Documents.
- 2.1.7 The person executing the Bid Form is duly authorized and empowered to execute the Bid Form on behalf of Bidder.
- 2.1.8 Bidder is aware of and, if awarded the Contract, will comply with Applicable Code Requirements in its performance of the Work.

ARTICLE 3

BIDDING DOCUMENTS

3.1 COPIES

- 3.1.1 ~~Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement for Bids for the sum stated therein, if any. Documents are only available in full sets and shall not be returned.~~

See Supplementary Instructions to Bidders

- 3.1.2 Bidders shall use a complete set of Bidding Documents in preparing Bids.
- 3.1.3 University makes copies of the Bidding Documents available, on the above terms, for the sole purpose of obtaining Bids for the Work and does not confer a license or grant permission for any other use of the Bidding Documents.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- 3.2.1 Bidder shall, before submitting its Bid, carefully study and compare the components of the Bidding Documents and compare them with any other work being bid concurrently or presently under construction which relates to the Work for which the Bid is submitted; shall examine the Project site, the conditions under which the Work is to be performed, and the local conditions; and shall at once report to University's Representative errors, inconsistencies, or ambiguities discovered. If Bidder is awarded the Contract, Bidder waives any claim arising from any errors, inconsistencies or ambiguities, that Bidder, its subcontractors or suppliers, or any person or entity under Bidder on the Contract became aware of, or reasonably should have become aware of, prior to Bidder's submission of its Bid.

- 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be addressed only to the person or firm designated in the Supplementary Instructions to Bidders.

- 3.2.3 Clarifications, interpretations, corrections, and changes to the Bidding Documents will be made by Addenda issued as provided in Article 3.5. Clarifications, interpretations, corrections, and changes to the Bidding Documents made in any other manner shall not be binding and Bidders shall not rely upon them.

3.3 PRODUCT SUBSTITUTIONS

- 3.3.1 No substitutions will be considered prior to award of Contract. Substitutions will only be considered after award of the Contract and as provided for in the Contract Documents.

3.4 SUBCONTRACTORS

- 3.4.1 Each Bidder shall list in the Bid Form all first-tier Subcontractors that will perform work, labor or render such services as defined in Article 9 of the Bid Form. The Bid Form contains spaces for the following information when listing Subcontractors: (1) *Portion of the Work*; (2) *Amount of Subcontract*, (3) *name of Business (Subcontractor)*; (4) *city of Subcontractor's business location*; (5) *California contractor license number*; (6) *Department of Industrial Relations (DIR) Registration Number* and; (7) *Type of Business Entity*. An inadvertent error in listing the California contractor license number and DIR Registration Number shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the corrected contractor's license number and DIR Registration number is submitted in writing by, and actually received from, the Bidder within 24 hours after the bid opening and provided the corrected contractor's license number corresponds to the submitted name and location for that subcontractor. With the exception of items listed under Columns (2) and (7) the failure to list, on the Bid Form, any of the information requested in items (1), (3), (4), (5), (6) as set forth above, will result in the University treating the Bid as if no Subcontractor was listed for that portion of the Work and Bidder will thereby represent to University that Bidder agrees that it is fully qualified to perform that portion of the Work and shall perform that portion of the Work. Information requested under items (2) and (7) above for each listed Subcontractor must be furnished to the University at the time of award of the contract to/by the awarded contractor.

- 3.4.2 Subcontractors listed in the Bid Form shall only be substituted after the Bid Deadline with the written consent of University and in accordance with the State of California "Subletting and Subcontracting Fair Practices Act."

3.5 ADDENDA

3.5.1 Addenda will be issued only by University and only in writing. Addenda will be identified as such and will be mailed or delivered to all Planholders. At its sole discretion, the University may elect to deliver Addenda via facsimile to Planholders who have provided a facsimile number for receipt of Addenda.

See Supplementary Instructions to Bidders

3.5.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for inspection.

3.5.3 Addenda will be issued such that Planholders should receive them no later than 3 full business days prior to the Bid Deadline. Addenda withdrawing the request for Bids or postponing the Bid Deadline may be issued any time prior to the Bid Deadline.

3.5.4 Each Bidder shall be responsible for ascertaining, prior to submitting a Bid, that it has received all issued Addenda.

3.6 BUILDER'S RISK PROPERTY INSURANCE

3.6.1 University will provide builder's risk property insurance subject to the deductibles in the policy as required by the General Conditions if the Contract Sum exceeds \$300,000 at the time of award and the requirements of the Project are not excluded by such coverage. A summary of the provisions of the policy is included as an Exhibit to the Contract; the policy may be reviewed at the Facility office. Bidder agrees that the University's provision of builder's risk property insurance containing said provisions meets the University's obligation to provide builder's risk property insurance under the Contract and, in the event of a conflict between the provisions of the policy and any summary or description of the provisions contained herein or otherwise, the provisions of the policy shall control and shall be conclusively presumed to fulfill the University's obligation to provide such insurance.

ARTICLE 4 **PRE-BID CONFERENCE**

4.1 Bidder shall attend the Pre-Bid Conference at which the requirements of the Bidding Documents are reviewed by University, comments and questions are received from Bidders, and a Project site visit is conducted. University requires all Pre-Bid Conference attendees to arrive for the meeting on time and to sign an attendance list, which in turn is used to determine if Bidders meet this requirement. Any Bidder not attending the Pre-Bid Conference in its entirety will be deemed to have not complied with the requirements of the Bidding Documents and its Bid will be rejected.

See Supplementary Instructions to Bidders

ARTICLE 5 **BIDDING PROCEDURES**

5.1 FORM AND STYLE OF BIDS

5.1.1 Bids shall be submitted on the Bid Form included with the Bidding Documents. Bids not submitted on the University's Bid Form shall be rejected.

5.1.2 The Bid Form shall be filled in legibly in ink or by typewriter. All portions of the Bid Form must be completed and the Bid Form must be signed before the Bid is submitted. Failure to comply with the requirements of this Article 5.1.2 will result in the Bid being rejected as nonresponsive.

5.1.3 Bidder's failure to submit a price for any Alternate or Unit Price will result in the Bid being considered as nonresponsive. If Alternates are called for and no change in the Lump Sum Base Bid is required, indicate "No Change" by marking the appropriate box.

5.1.4 Bidder shall make no stipulations on the Bid Form nor qualify the Bid in any manner.

5.1.5 The Bid Form shall be signed by a person or persons legally authorized to bind Bidder to a contract. Bidder's Representative shall sign and date the Declaration included in the Bid Form. Failure to sign and date the declaration will cause the Bid to be rejected.

5.2 BID SECURITY

5.2.1 Each Bid shall be accompanied by Bid Security in the amount of 10% of the Lump Sum Base Bid as security for Bidder's obligation to enter into a Contract with University on the terms stated in the Bid Form and to furnish all items required by the Bidding Documents. Bid Security shall be a Bid Bond on the form provided by University and included herein, or a certified check made payable to "The Regents of the University of California." When a Bid Bond is used for Bid Security, failure to use University's Bid Bond form will result in the rejection of the Bid. Bidder must use the Bid Bond form provided by the University or an exact, true and correct photocopy of such form. The Bid Bond form may not be retyped, reformatted, transcribed onto another form, or altered in any manner except for the purpose of completing the form.

5.2.2 If the apparent lowest responsible Bidder fails to sign the Agreement and furnish all items required by the Bidding

Documents within the time limits specified in these Instructions to Bidders, University may reject such Bidder's Bid and select the next apparent lowest responsible Bidder until all Bids have been exhausted or University may reject all Bids. The Bidder whose Bid is rejected for such failure(s) shall be liable for and forfeit to University the amount of the difference, not to exceed the amount of the Bid Security, between the amount of the Bid of the Bidder so rejected and the greater amount for which University procures the Work.

5.2.3 If a Bid Bond is submitted, the signature of the person executing the Bid Bond must be notarized. If an attorney-in-fact executes the Bid Bond on behalf of the surety, a copy of the current power of attorney bearing the notarized signature of the appropriate corporate officer shall be included with the Bid Bond. Additionally, the surety issuing the Bid Bond shall be, on the Bid Deadline, an admitted surety insurer (as defined in the California Code of Civil Procedure Section 995.120).

5.2.4 Bid Security will be returned after the contract has been awarded. Notwithstanding the preceding, if a Bidder fails or refuses, within 10 days after receipt of notice of selection, to sign the Agreement or submit to University all of the items required by the Bidding Documents, the University will retain that Bidder's Bid Security. If the Bid Security is in the form of a Bid Bond, the Bid Security will be retained until the University has been appropriately compensated; if the Bid Security is in the form of certified check, the University will negotiate said check and after deducting its damages, return any balance to Bidder.

5.3 SUBMISSION OF BIDS

5.3.1 The Bid Form, Bid Security, and all other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the office designated in the Supplementary Instructions to Bidders for receipt of Bids. The envelope shall be identified with the Project name, Bidder's name and address, and, if applicable, the designated portion of the Project for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

5.3.2 Bids shall be deposited at the designated location on or before the Bid Deadline. A Bid received after the Bid Deadline will be returned to Bidder unopened.

5.3.3 Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

5.3.4 Oral, telephonic, electronic mail (e-mail), facsimile, or telegraphic Bids are invalid and will not be accepted.

5.4 MODIFICATION OR WITHDRAWAL OF BID

5.4.1 Prior to the Bid Deadline, a submitted Bid may be modified or withdrawn by notice to the Facility receiving Bids at the location designated for receipt of Bids. Such notice shall be in writing over the signature of Bidder and, in order to be effective, must be received on or before the Bid Deadline. A modification so made shall be worded so as not to reveal the amount of the original Bid.

5.4.2 A withdrawn Bid may be resubmitted on or before the Bid Deadline, provided that it then fully complies with the Bidding Requirements.

5.4.3 Bid Security shall be in an amount sufficient for the Bid as modified or resubmitted.

5.4.4 Bids may not be modified, withdrawn, or canceled within 60 days after the Bid Deadline unless otherwise provided in Supplementary Instructions to Bidders.

ARTICLE 6 **CONSIDERATION OF BIDS**

6.1 OPENING OF BIDS

6.1.1 Bids which have the required identification as stipulated in Article 5.3.1 and are received on or before the Bid Deadline will be opened publicly.

6.2 REJECTION OF BIDS

6.2.1 University will have the right to reject all Bids.

6.2.2 University will have the right to reject any Bid not accompanied by the required Bid Security or any other item required by the Bidding Documents, or a Bid which is in any other way incomplete or irregular.

6.3 AWARD

6.3.1 University will have the right, but is not required, to waive nonmaterial irregularities in a Bid. If the University awards the

Contract, it will be awarded to the responsible Bidder submitting the lowest responsive Bid as determined by University and who is not rejected by University for failing or refusing, within 10 days after receipt of notice of selection, to sign the Agreement or submit to University all of the items required by the Bidding Documents.

6.3.2 University will have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents. The opening of Bids and evaluation of Alternates will be conducted in accordance with a procedure that, at University's option, either (i) prescribes, prior to the time of Bid opening, the order in which Alternates will be selected or (ii) prevents, before the determination of the apparent low Bidder has been made, information that would identify which bid belongs to which Bidder from being revealed to the representative of the University selecting the Alternates to be used in determining the low Bidder. After determination of the apparent low Bidder has been made, University will publicly disclose the identity of each Bidder that submitted a Bid and the amount of each such Bid.

6.3.3 University will determine the low Bidder on the basis of the sum of the Lump Sum Base Bid plus all Unit Prices multiplied by their respective Estimated Quantities as stated in the Bid Form, if any, plus the daily rate for Compensable Delay multiplied by the "multiplier" as stated in the Bid Form, plus the amounts of all Alternates to be included in the Contract Sum at the time of award. The Contract Sum will be the sum of the Lump Sum Base Bid and the additive or deductive amounts for all Alternates that University has selected to be included in the Contract Sum as of the time of award.

6.3.4 The University will post the Bid results in a public place at the address where the Bids are received (unless another address is specified in the Bidding Documents).

6.3.5 University will select the apparent lowest responsive and responsible Bidder and notify such Bidder on University's form within 50 days (unless the number of days is modified in Supplementary Instructions to Bidders) after the Bid Deadline or reject all Bids. Within 10 days after receipt of notice of selection as the apparent lowest responsive and responsible Bidder, Bidder shall submit to University all of the following items:

- .1 Three originals of the Agreement signed by Bidder.
- .2 Three originals of the Payment Bond required under Article 11 of the General Conditions.
- .3 Three originals of the Performance Bond required under Article 11 of the General Conditions.
- .4 Certificates of Insurance on form provided by University required under Article 11 of the General Conditions.
- .5 Name of, qualifications of, and references for the Superintendent proposed for the Work.
- .6 Names of all Subcontractors, with their addresses, telephone number, facsimile number, contact person, portion of the Work, California contractor license number, and designation of any Subcontractor as a Small Business Enterprise (SBE), Disadvantaged Business Enterprise (DBE), Women-owned Business Enterprise (WBE) and Disabled Veteran Business Enterprise (DVBE) on Report of Subcontractor Information in the form contained in the Exhibits. Evidence, as required by University, of the reliability and responsibility of the proposed Subcontractors such as statements of experience, statements of financial condition, and references
- .7 Preliminary Contract Schedule as required under Article 3 of the General Conditions.
- .8 If Bidder wishes to utilize securities in lieu of retention beginning with the first Application for Payment, Selection of Retention Options accompanied by a completed Escrow Agreement for Deposit of Securities in Lieu of Retention and Deposit of Retention in the form contained in the Exhibits.
- .9 Cost Breakdown as required by Article 9 of the General Conditions.

See Supplementary Instructions to Bidders

6.3.6 Prior to award of the Contract, University will notify Bidder in writing, if University, after due investigation, objects to a Subcontractor or Superintendent proposed by Bidder, in which case Bidder shall propose a substitute acceptable to University. Substitution of Superintendent shall be made in accordance with Article 3 of the General Conditions. Substitution of a Subcontractor shall be made in accordance with Article 5 of the General Conditions. Failure of University to object to a proposed Superintendent or Subcontractor prior to award shall not preclude University from requiring replacement of Superintendent or any Subcontractor based upon information received subsequent to award, information which cannot be properly evaluated prior to award due to time constraints, or information relating to a failure to comply with the requirements of the Contract.

6.3.7 If Bidder submits three originals of the signed Agreement and all other items required to be submitted to University within 10 days after receipt of notice of selection as the apparent lowest responsive and responsible Bidder, and if all such items comply with the requirements of the Bidding Documents and are acceptable to University, University will award the Contract to Bidder by signing the Agreement and returning a signed copy of the Agreement to Bidder.

6.3.8 If University consents to the withdrawal of the Bid of the apparent lowest responsive and responsible Bidder, or the apparent lowest responsive and responsible Bidder fails or refuses to sign the Agreement or submit to University all of the items required by the Bidding Documents, within 10 days after receipt of notice of selection, or that Bidder is not financially or otherwise qualified to perform the Contract, University may reject such Bidder's Bid and select the next apparent lowest responsive Bidder, until all Bids are exhausted, or reject all Bids. Any Bidder whose Bid is rejected because the Bidder has failed or refused, within 10 days after receipt of notice of selection, to sign the Agreement or submit to University all of the items required by the Bidding Documents, shall be liable to the University for all resulting damages.

ARTICLE 7 **BID PROTEST**

7.1 FILING A BID PROTEST

7.1.1 Any Bidder, person, or entity may file a Bid protest. The protest shall specify the reasons and facts upon which the protest is based and shall be in writing and received by the Facility not later than 5:00 p.m. on the 3rd business day following:

- .1 if the Bid Form does not contain any Alternate(s), the date of the Bid opening;
- .2 if the Bid Form contains any Alternate(s), the date of posting in a public place of bid results that identify the actual names of the bidders.

7.1.2 If a Bid is rejected by the Facility, and such rejection is not in response to a Bid protest, any Bidder, person or entity may dispute that rejection by filing a Bid protest (limited to the rejection) in writing and received by the Facility not later than 5:00 pm on the 3rd business day following the rejected Bidder's receipt of the notice of rejection.

7.1.3 For the purpose of computing any time period in this Article 7, the date of receipt of any notice shall be the date on which the intended recipient of such notice actually received it. Delivery of any notice may be by any means, with verbal or written confirmation of receipt by the intended recipient.

7.2 RESOLUTION OF BID CONTROVERSY

7.2.1 Facility will investigate the basis for the Bid protest and analyze the facts. Facility will notify Bidder whose Bid is the subject of the Bid protest of evidence presented in the Bid protest and evidence found as a result of the investigation, and, if deemed appropriate, afford Bidder an opportunity to rebut such evidence, and permit Bidder to present evidence that it should be allowed to perform the Work. If deemed appropriate by Facility, an informal hearing will be held. Facility will issue a written decision within 15 days following receipt of the Bid protest, unless factors beyond Facility's reasonable control prevent such a resolution, in which event such decision will be issued as expeditiously as circumstances reasonably permit. The decision will state the reasons for the action taken by Facility. A written copy of the decision will be furnished to the protestor, the Bidder whose Bid is the subject of the Bid protest, and all Bidders affected by the decision. As used in this Article 7, a Bidder is affected by the decision on a Bid protest if a decision on the protest could have resulted in the Bidder not being the lowest responsible and responsive Bidder for the Contract. A written copy of the Facility's decision must be received by the protestor, the Bidder whose Bid is the subject of the Bid protest, and all Bidders affected by the decision no later than 3 business days prior to award of the contract.

7.2.2 Notwithstanding the provisions of Article 7.2.1, at the election of Facility, a Bid protest may be referred directly to University's Construction Review Board without prior investigation and review by Facility. The Chair of the Construction Review Board will either decide the Bid protest or appoint a Hearing Officer. If a Hearing Officer is appointed, the Hearing Officer will review the Bid protest in accordance with the provisions of Article 7.2.4.

7.2.3 Bidder whose Bid is the subject of the protest, all Bidders affected by the Facility's decision on the protest, and the protestor have the right to appeal to the Construction Review Board if not satisfied with Facility's decision. The appeal must be in writing and shall specify the decision being appealed and all the facts and circumstances relied upon in support of the appeal. A copy of the appeal must be received by the Chair, Construction Review Board, not later than 5:00 p.m. on the 3rd business day following appellant's receipt of the written decision of Facility, at the following address:

Chair, Construction Review Board
University of California
Office of the President
1111 Franklin Street, 7th Floor
Oakland, CA 94607-5200
Attention: Director, Design + Construction Services

And, by e-mail to:

constructionreviewboard@ucop.edu

A copy of the appeal must be sent to all parties involved in the Bid protest and to Facility, to the same address and in the same manner as the original protest. An appeal received after 5:00 p.m. is considered received as of the next business day. If the final date for receipt of an appeal falls on a Saturday, Sunday, or University holiday, the appeal will be considered timely only if received by 5:00 p.m. on the following business day. The burden of proving timely receipt of the appeal is on the appealing party.

7.2.4 The Chair of the Construction Review Board will review the Facility's decision and the appeal, and issue a written decision, or if appropriate, appoint a Hearing Officer to conduct a hearing and issue a written decision. If a hearing is held, the hearing shall be held not later than the 10th day following the appointment of the Hearing Officer unless the Hearing Officer for good cause determines otherwise. The written decision of the Chair or Hearing Officer will state the basis of the decision, and the decision will be final and not subject to any further appeal to University. The Chair or Hearing Officer may consult with the University's Office of the General Counsel on the decision as to legal form. The University will complete its internal Bid protest procedures before award of the Contract.

END OF INSTRUCTIONS TO BIDDERS

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1. Contract Time: As specified in Article 4 of the Agreement, bound herein.
2. Requests for clarification or interpretation of the Bidding Documents shall be addressed only to the person or firm listed in the Project Directory, bound herein.
3. The Pre-Bid Conference will be conducted at the time and location specified in the Advertisement for Bids, bound herein. (Attendance at the Pre-Bid Conference is mandatory.)
4. Bids will be received only at the location specified in the Advertisement for Bids, bound herein.
5. Bids will be opened at the time and location specified in the Advertisement for Bids, bound herein.
6. Contractor will be assessed as liquidated damages the sum listed in Article 5 of the Agreement for each day the Work remains incomplete beyond the expiration of the Contract Time. See Article 5 of the Agreement for detailed requirements.
7. Prequalifications: To be allowed to submit a bid, Bidders must have the minimum experience described in the Prequalification Questionnaire contained in the Bidding Documents and also posted on the website listed in the Advertisement for Bids. To allow University to evaluate Bidders, each Bidder must: complete the Prequalification Questionnaire (no other form will be accepted) consisting of an experience record and required attachments (if any); and either place it in a sealed envelope and submit it so that it is received at the place and time stipulated in the Advertisement for Bids, or upload it to the UCLA Online Planroom so that it is received by the time stipulated in the Advertisement for Bids. University reserves the right (but is not obligated) to request, receive and evaluate supplemental information after the specified time and date at its sole determination. The envelope shall be clearly labeled, "Prequalification Documents" and state the project name and Bidder name. (NOTE: Oral, telephonic, electronic mail (e-mail), facsimile or telegraphic qualifications are invalid and will not be accepted.)
8. Not Used.
9. California State General Prevailing Wage Determination: The California State General Prevailing Wage Determination for this Project is 2025-1. Bidder is required to refer to the California Department of Industrial Relations website (<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>) and confirm the correct Prevailing Wage Determination for this Project.
10. Article 1.12 of the Instructions to Bidders is replaced with the following revised article:
 - 1.12 As used in these Instructions to Bidders, the term "Business Day" means any day other than a Saturday, a Sunday, and the holidays specified herein, and to the extent provided herein, if Facility or applicable office of University is closed for the whole of any day, insofar as the business of that office is concerned, that day shall be considered as a holiday for the purposes of computing time in these Instructions to Bidders. Holidays include January 1st and either December 31st or January 2nd, the third Monday in January, the third Monday in February, the last Friday in March, the last Monday in May, July 4th and either July 3rd or July 5th if it falls on a weekend, the first Monday in September, November 11th and either November 10th or November 12th if it falls on a weekend, Thanksgiving Day and the Friday after, December 25th and either December 24th or December 26th, and every day designated by University as a holiday.
11. Article 3.1.1 of the Instructions to Bidders is replaced with the following revised article:
 - 3.1.1 Bidders may obtain complete sets of the Bidding Documents as indicated in the Advertisement for Bids.
12. Article 3.5.1 of the Instructions to Bidders is replaced with the following revised article:
 - 3.5.1 Addenda will be issued only by University. Addenda will be identified as such and will be posted on the UCLA Online Planroom website (<https://www.uclaplanroom.com>). At its sole discretion, the University may elect to deliver Addenda via facsimile or via e-mail to Planholders who have provided a facsimile number or an e-mail address for receipt of Addenda.
13. Article 4.1 of the Instructions to Bidders is replaced with the following revised article:
 - 4.1 Bidder shall attend the Pre-Bid ZOOM Conference at which the requirements of the Bidding Documents are reviewed by University, comments and questions are received from Bidders, and at a separate time and location, a Project site visit is conducted. University requires all Pre-Bid Conference attendees to:
 1. Log into the ZOOM Meeting on time.

2. Ensure the Bidders information is received by the University Host and added to the Sign-In Sheet.
 3. Sign an attendance list at the conclusion of the site visit.
- 4.2 Any Bidder not complying with the requirements of Article 4.1 in its entirety will be deemed to have not complied with the requirements of the Bidding Documents and its Bid will be rejected.

END OF SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

INFORMATION AVAILABLE TO BIDDERS

The following information is made available for the convenience of bidders and is not a part of the Contract. The information is provided subject to the provisions of Article 3 of the General Conditions.

1. The University of California has contracts for materials, equipment and/or services with the suppliers listed on the Office of the President Procurement Services website at <http://www.ucop.edu/procurement-services/for-suppliers/construction-supplier-resources.html>. General or others submitting bids for University construction projects may enter into agreements with these suppliers that utilize the pricing and terms contained in the University-supplier agreements. University does not represent or warrant that materials/equipment/services of these suppliers meet the requirements of University's construction contracts. Use of such suppliers shall not relieve Contractor from its obligation to meet all contractual requirements in any contracts with University. University will not be a party to any agreements with such suppliers and accepts no performance obligations or liability with respect to such agreements.

2. Additional Items:

Document Type	Document Title	Document Preparer	Document Date
Hazmat Report	XRF-Lead / Inspection / Report	Global Environmental Training & Consulting, Inc.	1/27/2025
Hazmat Report	Asbestos Survey / Report	Global Environmental Training & Consulting, Inc.	1/27/2025

END OF INFORMATION AVAILABLE TO BIDDERS

BID FORM

FOR:

SKIDATA PAY MACHINES INSTALLATION

**UNIVERSITY OF CALIFORNIA
LOS ANGELES CAMPUS
LOS ANGELES, CALIFORNIA**

MAY 2025

BID TO:

Contracts Administration
University of California, Los Angeles
1060 Veteran Avenue, Suite 330
Box 951365
Los Angeles, California 90095-1365
(310) 825-7015

BID FROM:

(Name of Firm Submitting Bid)

(Address)

(City, State, Zip Code)

(Telephone No.)

(Date Bid submitted)

Note: All portions of this Bid Form must be completed and the Bid Form must be signed before the Bid is submitted. Failure to do so will result in the Bid being rejected as non-responsive.

1.0 BIDDER'S REPRESENTATIONS

Bidder, represents that a) Bidder and all Subcontractors, regardless of tier, has the appropriate current and active Contractor's licenses required by the State of California and the Bidding Documents; b) it has carefully read and examined the Bidding Documents for the proposed Work on this Project; c) it has examined the site of the proposed Work and all Information Available to Bidders; d) it has become familiar with all the conditions related to the proposed Work, including the availability of labor, materials, and equipment; e) Bidder and all Subcontractors, regardless of tier, are currently registered with the California Department of Industrial Relations pursuant to California Labor Code Section 1725.5 and 1771.1. Bidder hereby offers to furnish all labor, materials, equipment, tools, transportation, and services necessary to complete the proposed Work on this Project in accordance with the Contract Documents for the sums quoted. Bidder further agrees that it will not withdraw its Bid within 60 days after the Bid Deadline, and that, if it is selected as the apparent lowest responsive and responsible Bidder, that it will, within 10 days after receipt of notice of selection, sign and deliver to University the Agreement in triplicate and furnish to University all items required by the Bidding Documents. If awarded the Contract, Bidder agrees to complete the proposed Work within 180 days after the date of commencement specified in the Notice to Proceed.

2.0 ADDENDA

Bidder acknowledges that it is Bidder's responsibility to ascertain whether any Addenda have been issued and if so, to obtain copies of such Addenda from University as specified in the Instructions to Bidders. Bidder therefore agrees to be bound by all Addenda that have been issued for this Bid.

3.0 NOT USED.

4.0 LUMP SUM BASE BID

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(Place figures in appropriate boxes.)

5.0 SELECTION OF APPARENT LOW BIDDER

Refer to the Instructions to Bidders for selection of apparent low bidder.

6.0 UNIT PRICES - NOT USED.

7.0 DAILY RATE OF COMPENSATION FOR COMPENSABLE DELAYS

Bidder shall determine and provide below the daily rate of compensation for any Compensable Delay caused by University at any time during the performance of the Work:

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 times 18 (multiplier)
(Place figures in appropriate boxes.)

Failure to fill in a dollar figure for the daily rate for Compensable Delay shall be interpreted as a daily rate of "zero."

University will perform the extension of the daily rate times the multiplier.

The daily rate shown above will be the total amount of Contractor entitlement for each day of Compensable Delay caused by University at any time during the performance of the Work and shall constitute payment in full for all delay costs, direct or indirect (including, without limitation, compensation for all extended home office overhead and extended general conditions), of the Contractor and all subcontractors, suppliers, persons, and entities under or claiming through Contractor on the Project. The number of days of Compensable Delay shown as a "multiplier" above is not intended as an estimate of the number of days of Compensable Delay anticipated by the University. The University will pay the daily rate of compensation only for the actual number of days of Compensable Delay, as defined in the General Conditions; the actual number of days of Compensable Delay may be greater or lesser than the "multiplier" shown above. Bidder shall not bid less than zero dollars for the daily rate (i.e., the daily rate cannot be a negative number.)

8.0 ALTERNATES - NOT USED.

9.0 LIST OF SUBCONTRACTORS

Bidder will use Subcontractors for the Work:

☐

YES

☐

NO

If "yes", provide in the spaces below (a) the name, the location of the place of business, and the California contractor license number of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the state of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid, (b) the portion of the work which will be done by each subcontractor. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in its bid.

		Subcontractor				
(1) Portion of the Work Activity (e.g. electrical, mechanical, concrete)	(2)* Amount of Subcontract	(3) Name of Business	(4) Location of Business (City)	(5) License No.	(6) DIR Registration No.	(7)* Business categories (Check all categories that apply- SBE/DVBE)
						☐ SBE ☐ DVBE ☐ N/A
						☐ SBE ☐ DVBE ☐ N/A
						☐ SBE ☐ DVBE ☐ N/A
						☐ SBE ☐ DVBE ☐ N/A
						☐ SBE ☐ DVBE ☐ N/A
						☐ SBE ☐ DVBE ☐ N/A

* Information for Items (2) and (7) for each listed Subcontractor must be furnished to the University at the time of award of the contract by the awarded contractor.

Total percentage of bid amount to be performed by SBEs and DVBEs: _____

(Note: Add additional pages if required.)

10.0 LIST OF CHANGES IN SUBCONTRACTORS DUE TO ALTERNATES - NOT USED.

11.0 BIDDER INFORMATION

TYPE OF ORGANIZATION: _____
(Corporation, Partnership, Individual, Joint Venture, etc.)

IF A CORPORATION, THE CORPORATION IS ORGANIZED UNDER THE LAWS OF THE
STATE OF:

THE STATE OF: _____
(State)

NAME OF PRESIDENT
OF THE CORPORATION: _____
(Insert Name)

NAME OF SECRETARY
OF THE CORPORATION: _____
(Insert Name)

IF A PARTNERSHIP, NAMES OF ALL GENERAL PARTNERS:

(Insert Names)

CALIFORNIA CONTRACTORS LICENSE(S):

(Classification) (License Number) (Expiration Date)

(For Joint Venture, list Joint Venture's license and licenses for all Joint Venture partners.)

12.0 REQUIRED COMPLETED ATTACHMENTS

The following documents are submitted with and made a condition of this Bid:

1. Bid Security in the form of _____
(Bid Bond or Certified Check)

13.0 DECLARATION

I, _____, hereby declare that I am the
(Printed Name)

_____ of _____
(Title) (Name of Bidder)

submitting this Bid Form; that I am duly authorized to execute this Bid Form on behalf of Bidder; and that all information set forth in this Bid Form and all attachments hereto are, to the best of my knowledge, true, accurate, and complete as of its submission date.

I further declare that this bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the Bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the Bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare, under penalty of perjury, that the foregoing is true and correct and that this
declaration was executed at: _____
(Name of City if within a City, otherwise Name of County),

in the State of _____, on _____
(State) (Date)

(Signature)

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____, as Principal,
and _____, as Surety,

are held and firmly bound unto THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, hereinafter called THE REGENTS, in the sum of 10% of the Lump Sum Base Bid amount for payment of which in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, Principal has submitted a Bid for the work described as follows:

NOW, THEREFORE, if Principal shall not withdraw said Bid within the time period specified after the Bid Deadline, as defined in the Bidding Documents, or within 60 days after the Bid Deadline if no time period be specified, and, if selected as the apparent lowest responsible Bidder, Principal shall, within the time period specified in the Bidding Documents, do the following:

- (1) Enter into a written agreement, in the prescribed form, in accordance with the Bid.
- (2) File two bonds with THE REGENTS, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by the Bidding Documents.
- (3) Furnish certificates of insurance and all other items as required by the Bidding Documents.

In the event of the withdrawal of said Bid within the time period specified, or within 60 days if no time period be specified, or the disqualification of said Bid due to failure of Principal to enter into such agreement and furnish such bonds, certificates of insurance, and all other items as required by the Bidding Documents, if Principal shall pay to THE REGENTS an amount equal to the difference, not to exceed the amount hereof, between the amount specified in said Bid and such larger amount for which THE REGENTS procure the required work covered by said Bid, if the latter be in excess of the former, then this obligation shall be null and void, otherwise to remain in full force and effect.

In the event suit is brought upon this bond by THE REGENTS, Surety shall pay reasonable attorneys' fees and costs incurred by THE REGENTS in such suit.

IN WITNESS WHEREOF, we have hereunto set our hands this _____ day of _____, 20____.

Principal: _____
(Name of Firm)

Surety: _____
(Name of Firm)

By: _____
(Signature)

By: _____
(Signature)

(Printed Name)

(Printed Name)

Title: _____

Title: _____

Addresses for Notices:

NOTE: Notary acknowledgement for Surety and Surety's Power of Attorney must be attached.

PREQUALIFICATION QUESTIONNAIRE

*****THIS COMPLETED FORM MUST BE SUBMITTED IN ADVANCE OF THE BID*****

The Undersigned declares under penalty of perjury that all of the qualification information submitted with this form is true and correct and that this Declaration was executed in _____

County, State of _____, on _____.

Signed: _____

Typed Name and Title

Firm Name and Full Address

Firm's
Telephone Number

Firm's
Fax Number

Firm's
License Number

Name and Title of Firm's Contact Person for Questions

Each prospective Bidder must answer all of the following questions and provide all requested information, where applicable. Any prospective Bidder failing to do so will be deemed to be not responsive and not responsible with respect to this Prequalification at the sole discretion of the University of California. In addition, Bidder must list accurate names and telephone numbers of applicable contact references. If University is unable, after reasonable efforts, to confirm any information submitted by Bidder, said information will not be accepted as a qualifying information. All Bidders that have submitted a Prequalification Questionnaire will be notified in writing of whether or not they have successfully achieved Prequalification status. Prospective Bidders that affirmatively respond (i.e. answer YES) to all questions, submit all required information and supporting data, and are determined to have accurately responded to the questions will be prequalified. Only those Bidders that have been determined to be prequalified will be eligible to submit a bid for this Project.

If the prospective Bidder is determined by the University not to be prequalified, the prospective Bidder may request a review by the Facility. Any such request must be received by the Facility within 3 calendar days after receipt by the prospective Bidder of the determination. The decision resulting from such review is final and is not appealable within the University of California. Any person or entity not satisfied with the outcome of the prequalification must file a writ challenging the outcome within 10 calendar days from the date of the University's written notice regarding prequalification determination. Any assertion that the outcome of the prequalification process was improper will not be a ground for a bid protest.

All information submitted for Prequalification evaluation will be considered official information acquired in confidence, and the University will maintain its confidentiality to the extent permitted by law.

WHERE NECESSARY, COPY THE FORMS IN THIS PACKAGE. USE ONLY THESE FORMS.

Refer to Supplementary Instructions to Bidders for additional information.

1. CALIFORNIA CONTRACTOR LICENSE

Can Entity truthfully state that:

- A. Entity (or if Entity is a joint venture, the joint venture Entity and each member of the joint venture) is a licensed contractor in California with a B License (General Building) classification? ☐ Yes ☐ No
- B. The State of California Contractor State License Board (CSLB) has never revoked Entity's contractor license (or, if Entity is a joint venture, the license of the joint venture Entity or any joint venture member)? ☐ Yes ☐ No
- C. Entity has been doing business under the same company name with the same license since July 1, 2019? ☐ Yes ☐ No

2. SURETY

Entity must submit the Surety Declaration form on the next page, signed by an authorized representative of the surety to be used for this project.

1. Surety Declaration must be notarized.
2. An effectively dated Power of Attorney for the attorney-in-fact who signs the Surety Declaration must also be submitted.

Can Entity truthfully state that:

- A. The surety to be used for this project is authorized by the Insurance Commissioner to transact business in the State of California as an admitted surety insurer (as defined in the California Code of Civil Procedure Section 995.120)? ☐ Yes ☐ No
- B. Entity is able to obtain bonding for \$4,117,000.00? ☐ Yes ☐ No
- C. No surety has paid out any monies on claims on the performance bond issued by a surety for the benefit of the owner arising out of the construction activities of Entity since July 1, 2019? ☐ Yes ☐ No
- D. No surety has paid out any monies on claims on the payment bond issued by a surety for the benefit of the owner arising out of the construction activities of Entity since July 1, 2019? ☐ Yes ☐ No

- E. Entity has attached the signed and notarized Surety Declaration and Power of Attorney?

☐ Yes ☐ No

SURETY DECLARATION:

FURNISH THIS DECLARATION TO YOUR SURETY(IES) FOR COMPLETION. DO NOT HAVE THE SURETY SUBMIT THIS INFORMATION DIRECTLY TO THE UNIVERSITY.

The undersigned declares under penalty of perjury that the bonding capacity indicated above is true and correct and that this declaration was executed in _____ (County), _____, (State) on _____ (Date).

(Signature)

(Name and Title - Printed or Typed)

(Representing [Surety Name])

(Entity Name)

(Address)

(City, State, Zip Code)

(Telephone Number)

(Facsimile Number)

(E-mail)

(ATTACH NOTARIZATION OF SURETY REPRESENTATIVE'S SIGNATURE)

3. CONTRACT COMPLIANCE

Can Bidder truthfully state that since July 1, 2019:

- | | | | |
|----|---|------------------------------|-----------------------------|
| A. | It has never been terminated for cause by an owner? | ☐ Yes | ☐ No |
| B. | It has never been assessed a penalty for violation of the Subcontractors Subletting Fair Practice Act? | ☐ Yes | ☐ No |
| C. | It has never been issued a Deductive Change Order for failure to perform? | ☐ Yes | ☐ No |
| D. | It has never failed inspection on the same item of work 3 or more times? | ☐ Yes | ☐ No |
| E. | It has never failed to have a Superintendent on site while work was taking place? | ☐ Yes | ☐ No |
| F. | It has never had to replace a Superintendent at the request of an owner for a Superintendent's lack of ability to perform duties? | ☐ Yes | ☐ No |
| G. | It has never failed to meet an Owner's approved Baseline or Revised schedule two or more times on the same project. | ☐ Yes | ☐ No |

4. OCCUPATIONAL SAFETY AND HEALTH

Can Entity truthfully state that:

- | | | | |
|----|---|------------------------------|-----------------------------|
| A. | Entity has no Final Order (declared by OSHA) Willful violations in California of Part 1 -Section 6300 of Division 5 of the Labor Code during the five (5)-year period prior to execution of this certification? | ☐ Yes | ☐ No |
| B. | Entity has maintained a Workers' Compensation Experience Modification Rate (EMR) that averages below 1.15 for the past (5) years? Or, if Entity has been in business for less than (5) years, then Entity has maintained a workers' compensation Experience Modification Rate (EMR) that averages below 1.15 for all years it has been in business? Entity must attach a letter from its insurance carrier stating Entity's EMR for the lesser of the past five years or for all years Entity has been in business. | ☐ Yes | ☐ No |
| | Entity has attached a letter from its insurance carrier stating Entity's EMR for the lesser of the past five years or for all | ☐ Yes | ☐ No |

years Entity has been in business?

- C. Entity has instituted an injury prevention program pursuant to Section 3201.5 or 6401.7 of the Labor Code and will furnish University with a complete copy upon request?

☐ Yes ☐ No

5. PROJECT MANAGER & SUPERINTENDENT EXPERIENCE

- A. Proposed Project Manager: Bidder shall complete and submit the attached Project Manager Experience Form (see Attachment), for the proposed Project Manager that Bidder intends to use for this project, demonstrating at a minimum, the listed experience.

Has Bidder completed and attached the Project Manager Experience Form?

☐ Yes ☐ No

- B. Proposed Superintendent: Bidder shall complete and submit the attached Superintendent Experience Form (see Attachment), for the proposed Superintendent that Bidder intends to use for this project, demonstrating at a minimum, the listed experience.

Has Bidder completed and attached the Superintendent Experience Form?

☐ Yes ☐ No

PROJECT MANAGER EXPERIENCE FORM

Project Manager Name: _____ Bidder Name: _____

1.	Enter the total number of years of project management experience in the construction industry (must have at least 5 years).	
2.	Enter the total number of multi-trade Contracts (two or more unrelated trades) on which the individual was the project manager, construction manager or superintendent for the entirety of the Contract.	

1. Project Manager Experience: Each proposed Project Manager must have at least 5 years of project management experience in the construction industry.
2. Prior Construction Experience: Each proposed Project Manager must have performed as project manager, construction manager or superintendent for the entirety of construction on (2) projects, each meeting all of the following criteria:
 - a) Fully completed within the United States since January 1, 2014; and
 - b) Work included the construction or installation of parking control equipment or electrical low-voltage or line-voltage systems; and
 - c) The cost of the construction or installation work was at least \$500,000.

Complete the information below for each project that meets the criteria above.

Project 1	
Project Name:	Project Location (City & State):
Owner's Name: Owner's Telephone:	Owner's Contact Person: Contact Person's Telephone:
Design Professional: Design Professional's Telephone:	Design Professional's Contact Person: Contact Person's Telephone:
Project Start Date:	Project Completion Date:

Project 2	
Project Name:	Project Location (City & State):
Owner's Name: Owner's Telephone:	Owner's Contact Person: Contact Person's Telephone:
Design Professional: Design Professional's Telephone:	Design Professional's Contact Person: Contact Person's Telephone:
Project Start Date:	Project Completion Date:

END OF PROJECT MANAGER EXPERIENCE FORM

SUPERINTENDENT EXPERIENCE FORM

Superintendent Name: _____ Bidder Name: _____

1.	Total number of years of Superintendent experience:				
2.	Enter the total number of multi-trade <u>Contracts</u> (two or more unrelated trades) on which the individual was the Superintendent for the entirety of the Contract.				
3.	<u>OSHA Certifications:</u> (Check each box that applies. Attach copy of each certificate)	10-Hour	30-Hour	510	First Aid

1. Superintendent Experience: Each proposed Superintendent must have at least 8 years of Superintendent experience.
2. Certifications: Each proposed Superintendent must have OSHA 30-Hour and First Aid Certifications.
3. Prior Construction Experience: Each proposed Superintendent must have performed as superintendent for the entirety of construction on (2) projects meeting all of the following criteria:
 - a) Fully completed within the United States since January 1, 2014; and
 - b) Work included the construction or installation of parking control equipment or electrical low-voltage or line-voltage systems; and
 - c) The cost of the construction or installation work was at least \$500,000.

Furnish the following information for each project that meets the criteria above.

PROJECT 1	
Project Name:	Project Location (City & State):
Owner's Name:	Owner's Contact Person:
Owner's Telephone:	Contact Person's Telephone:
Design Professional:	Design Professional's Contact Person:
Design Professional's Telephone:	Contact Person's Telephone:
Project Start Date:	Project Completion Date:

PROJECT 2	
Project Name:	Project Location (City & State):
Owner's Name:	Owner's Contact Person:
Owner's Telephone:	Contact Person's Telephone:
Design Professional:	Design Professional's Contact Person:
Design Professional's Telephone:	Contact Person's Telephone:
Project Start Date:	Project Completion Date:

END OF SUPERINTENDENT EXPERIENCE FORM

PRIOR CONSTRUCTION EXPERIENCE: To be allowed to submit a bid, Bidders must have the minimum experience described below. Submit, on this form only proof of the following prior construction experience:

1. Bidder successfully completed one (1) project, meeting the following criteria:
 - a. Fully completed by Bidder since January 1, 2019; and
 - b. Work included working within the OSHPD or HCAi inspection and permitting system; and
 - c. The cost of the project was at least \$50,000.
2. Bidder successfully completed two (2) projects, each meeting the following criteria:
 - a. Fully completed by Bidder since January 1, 2019; and
 - b. Work included the installation or coordination of the installation of a parking control equipment system; and
 - c. Work was performed within an occupied parking structure; and
 - d. The cost of the parking control system was at least \$250,000.

NOTES:

- A. "Fully completed" shall be defined as a Certificate of Occupancy was issued on the project.
- B. Bidder, the licensed entity listed on Page 1 of this Questionnaire, must have been the contractor on each project submitted for consideration. Bidder may not use experience performed by a parent company, a sister subsidiary company, or a subsidiary to the Bidder. Additionally, Bidder may not use experience where Bidder was one member of a separately licensed joint venture entity.
- C. If Bidder is a joint venture, all construction experience must have been performed by the joint venture entity itself.

(Copy Additional Pages as Needed)

BIDDER NAME: _____

_____	_____
Project Name	Project Location (City & State)
_____	_____
Owner's Name & Telephone	Owner's Contact Person's Name & Telephone
_____	_____
Design Professional's or General Contractor's Name / Telephone / Email	Design Professional's or General Contractor's Contact Person's Name / Telephone / Email
_____	_____
Project Start Date	Project Completion Date

1a.	Is all on-site work, including punch list work, complete, and has all required close-out documentation been submitted to project owner or general contractor, as applicable?	☐ Yes ☐ No
1b.	Did work include working within the OSHPD or HCAi inspection and permitting system with a construction value of \$100,000 or more?	☐ Yes ☐ No

2a.	Did work include the install or coordination of the install of a parking control equipment system?	☐ Yes ☐ No
2b.	Did work occur within an occupied parking structure?	☐ Yes ☐ No
2c.	Was the cost of the work at least \$250,000?	☐ Yes ☐ No

END OF PREQUALIFICATION QUESTIONNAIRE

AGREEMENT

THIS AGREEMENT is made as of _____, by and between
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ("University"),

whose facility is: University of California, Los Angeles

whose address for notices is: UCLA Contracts Administration
1060 Veteran Avenue
Box 951365
University of California
Los Angeles, California 90095-1365

and Contractor: {Contractor Name}

whose address for notices is: {Contractor Address}

for the Project: SKIDATA PAY MACHINES INSTALLATION
University of California
Los Angeles Campus, Los Angeles County
Los Angeles, California 90095
Order Number {ORDER#}

University's Responsible Administrator: Michael J. Beck
Administrative Vice Chancellor

University's Representative is: Valerie Bottaioli

whose address for notices is: 731 Charles E. Young Drive South, 3rd Floor
Los Angeles, CA 90095

Contract Documents for the Work prepared by: Walter P. Moore
633 W 5th St, Suite 7200
Los Angeles, CA 90071

University and Contractor hereby agree as follows:

ARTICLE 1 WORK

Contractor shall provide all work required by the Contract Documents (the "Work"). Contractor agrees to do additional Work arising from changes ordered by University pursuant to Article 7 of the General Conditions. Contractor shall (1) pay all sales, consumer and other taxes and (2) obtain and pay for any governmental licenses and permits necessary for the work, other than building and utility permits.

ARTICLE 2 CONTRACT DOCUMENTS

"Contract Documents" means the Advertisement for Bids, Instructions to Bidders, Supplementary Instructions to Bidders, Bid Form, completed Prequalification Questionnaire, this Agreement, General Conditions, Supplementary Conditions, Exhibits, Specifications, List of Drawings, Drawings, Addenda, Notice to Proceed, Change Orders, Notice of Completion, and all other documents identified in this Agreement that together form the contract between University and Contractor for the Work (the "Contract"). The Contract constitutes the complete agreement between University and Contractor and supersedes any previous agreements or understandings.

ARTICLE 3 CONTRACT SUM

Subject to the provisions of the Contract Documents, University shall pay to Contractor, for the performance of the Work, \$**{UCLA: TYPE IN AMOUNT IN FIGURES}**, the "Contract Sum."

ARTICLE 4 CONTRACT TIME

Contractor shall commence the Work on the date specified in the Notice to Proceed and fully complete the Work within 180 days (the "Contract Time") thereafter.

By signing this agreement, Contractor represents to University that the Contract Time is reasonable for completion of the Work and that Contractor will complete the Work within the Contract Time. Time limits stated in the Contract Documents are of the essence of the Contract.

ARTICLE 5 LIQUIDATED DAMAGES

If Contractor fails to complete the Work within the Contract Time, Contractor shall pay to University, as liquidated damages and not as a penalty, the sum of \$750.00 for each day after the expiration of the Contract Time that the Work remains incomplete. After Substantial Completion, the rate for liquidated damages shall be reduced to the sum of \$500.00 per day. University and Contractor agree that if the Work is not completed within the Contract Time, University's damages would be extremely difficult or impracticable to determine and that the aforesaid amounts are reasonable estimates of and reasonable sums for such damages. University may deduct any liquidated damages due from Contractor from any amounts otherwise due to Contractor under the Contract Documents. This provision shall not limit any right or remedy of University in the event of any other default of Contractor other than failing to complete the Work within the Contract Time.

ARTICLE 6 COMPENSABLE DELAY

If Contractor is entitled to an increase in the Contract Sum as a result of a Compensable Delay, determined pursuant to Articles 7 and 8 of the General Conditions, the Contract Sum will be increased by the sum of \$**{UCLA: AMOUNT IN FIGURES}** per day for each day for which such compensation is payable.

ARTICLE 7 DUE AUTHORIZATION

The person or persons signing the Agreement on behalf of Contractor hereby represent and warrant to University that this Agreement is duly authorized, signed and delivered by Contractor.

THIS AGREEMENT is entered into by University and Contractor as of the date set forth above.

CONTRACTOR:

UNIVERSITY:

{ }
(Name of Firm)

THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA

a _____
(Type of Organization)

UNIVERSITY OF CALIFORNIA,
LOS ANGELES

By: _____
(Signature)

By: _____
(Signature)

(Printed Name)

{ }
(Printed Name)

(Title)

{ }
(Title)

California Contractor's License(s):

(Name of Licensee)

(Classification and License Number)

(Expiration Date)

(Employer Identification Number)

Attach notary acknowledgment for all signatures of Contractor. If signed by other than the sole proprietor, a general partner or corporate officer, attach original notarized Power of Attorney or Corporate Resolution.

GENERAL CONDITIONS

**UNIVERSITY OF CALIFORNIA
LOS ANGELES CAMPUS
LOS ANGELES, CALIFORNIA**

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ARTICLE 1
GENERAL PROVISION

1.1 BASIC DEFINITIONS

- 1.1.1 **APPLICABLE CODE REQUIREMENTS** - The term "Applicable Code Requirements" means all laws, statutes, the most recent building codes, ordinances, rules, regulations, and lawful orders of all public authorities having jurisdiction over University, Contractor, any Subcontractor, the Project, the Project site, the Work, or the prosecution of the Work including without limitation the requirements set forth in Article 3.7.
- 1.1.2 **APPLICATION FOR PAYMENT** - The term "Application for Payment" means the submittal from Contractor wherein payment for certain portions of the completed Work is requested in accordance with Article 9.
- 1.1.3 **BENEFICIAL OCCUPANCY** - The term "Beneficial Occupancy" means University's occupancy or use of any part of the Work in accordance with Article 9.
- 1.1.4 **CERTIFICATE FOR PAYMENT** - The term "Certificate for Payment" means the form signed by University's Representative attesting to Contractor's right to receive payment for certain completed portions of the Work in accordance with Article 9.
- 1.1.5 **CHANGE ORDER** - See Article 7.2 of the General Conditions.
- 1.1.6 **CLAIM** - See Article 4.3 of the General Conditions.
- 1.1.7 **COMPENSABLE DELAY** - The term "Compensable Delay" means a delay that entitles Contractor to an adjustment of the Contract Sum and an adjustment of the Contract Time pursuant to Articles 7 and 8 of the General Conditions.
- 1.1.8 **CONTRACT** - The term "Contract" shall have the meaning identified in Article 2 of the Agreement.
- 1.1.9 **CONTRACT DOCUMENTS** - The term "Contract Documents" means all documents listed in Article 2 of the Agreement, as modified by Change Order, including but not limited to the Drawings and Specifications.
- 1.1.10 **CONTRACT MILESTONE** - The term "Contract Milestone" means any requirement in the Contract Documents that reflects a planned point in time for the start or completion of a portion of the Work measured from i) the date of the Notice to Proceed or ii) the date of another Contract Milestone defined in the Contract Documents, as applicable.
- 1.1.11 **CONTRACT SCHEDULE** - The term "Contract Schedule" means the graphical representation of a practical plan, in accordance with the Specifications, to perform and complete the Work within the Contract Time in accordance with Article 3.
- 1.1.12 **CONTRACT SUM** - The term "Contract Sum" means the amount of compensation stated in the Agreement for the performance of the Work, as adjusted by Change Order.
- 1.1.13 **CONTRACT TIME** - The term "Contract Time" means the number of days set forth in the Agreement, as adjusted by Change Order, within which Contractor must achieve Final Completion.
- 1.1.14 **CONTRACTOR** - The term "Contractor" means the person or firm identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.
- 1.1.15 **CONTRACTOR FEE** - See Article 7.3 of the General Conditions.
- 1.1.16 **COST OF EXTRA WORK** - See Article 7.3 of the General Conditions.
- 1.1.17 **DAY** - The term "day," as used in the Contract Documents, shall mean calendar day, unless otherwise specifically provided.
- 1.1.18 **DEFECTIVE WORK** - The term "Defective Work" means work that is unsatisfactory, faulty, omitted, incomplete, deficient, or does not conform to the requirements of the Contract Documents, directives of University's Representative, or the requirements of any inspection, reference standard, test, or approval specified in the Contract Documents.
- 1.1.19 **DRAWINGS** - The term "Drawings" means the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams. The Drawings are listed in the List of Drawings.
- 1.1.20 **EXCUSABLE DELAY** - The term "Excusable Delay" means a delay that entitles Contractor to an adjustment of the Contract Time but not an adjustment of the Contract Sum, pursuant to Articles 7 and 8 of the General Conditions.
- 1.1.21 **EXTRA WORK** - The term "Extra Work" means Work beyond or in addition to the Work required by the Contract Documents.
- 1.1.22 **FIELD ORDER** - See Article 7.2 of the General Conditions.
- 1.1.23 **FINAL COMPLETION** - The term "Final Completion" means the date at which the Work has been fully completed in accordance with the requirements of the Contract Documents pursuant to Article 9.8.1 of the General Conditions.
- 1.1.24 **GUARANTEE TO REPAIR PERIOD** - See Article 12.2 of the General Conditions.
- 1.1.25 **HAZARDOUS MATERIAL** - The term "Hazardous Material" means any substance or material identified as hazardous under any California or federal statute governing handling, disposal and/or cleanup of any such substance or material.
- 1.1.26 **PROJECT** - The term "Project" means the Work of the Contract and all other work, labor, equipment, and materials necessary to accomplish the Project. The Project may include construction by University or by Separate Contractors.
- 1.1.27 **PROJECT SITE** - The term "Project Site" or "Project site" or "Site" or "site" means lands and facilities upon which the Work

pertaining to physical construction operations is performed, including such access and other lands and facilities designated in the Contract Documents for use by Contractor.

1.1.28 SEPARATE CONTRACTOR - The term "Separate Contractor" means a person or firm under separate contract with University performing other work related to the Project.

1.1.29 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES - See Article 3.12 of the General Conditions.

1.1.30 SPECIFICATIONS - The term "Specifications" means that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

1.1.31 SUBCONTRACTOR - The term "Subcontractor" means a person or firm that has a contract with Contractor or with a Subcontractor to perform a portion of the Work. Unless otherwise specifically provided, the term Subcontractor includes Subcontractors of all tiers.

1.1.32 SUBSTANTIAL COMPLETION - See Article 9.7 of the General Conditions.

1.1.33 SUPERINTENDENT - The term "Superintendent" means the person designated by Contractor to represent Contractor at the Project site in accordance with Article 3.

1.1.34 TIER - The term "tier" means the contractual level of a Subcontractor or supplier with respect to Contractor. For example, a first-tier Subcontractor is under subcontract with Contractor, a second-tier Subcontractor is under subcontract with a first-tier Subcontractor, and so on.

1.1.35 UNEXCUSABLE DELAY - The term "Unexcusable Delay" means a delay that does not entitle Contractor to an adjustment of the Contract Sum and does not entitle Contractor to an adjustment of the Contract Time.

1.1.36 UNILATERAL CHANGE ORDER - See Article 7.2 of the General Conditions.

1.1.37 UNIVERSITY - The term "University" means The Regents of the University of California.

1.1.38 UNIVERSITY'S BUILDING OFFICIAL - The term "University's Building Official," or "Certified Building Official," means the individual University has designated to act in the capacity as the "Building Official" as defined by the California Building Standards Code. University's Building Official will determine whether the Work complies with Applicable Code Requirements and will determine whether and when it is appropriate to issue a Certificate of Occupancy.

1.1.39 UNIVERSITY'S REPRESENTATIVE - The term "University's Representative" means the person identified as such in the Agreement.

1.1.40 UNIVERSITY'S RESPONSIBLE ADMINISTRATOR - The term "University's Responsible Administrator" means the person, or his or her authorized designee, who is authorized to execute the Agreement, Change Orders, Field Orders, and other applicable Contract Documents on behalf of University,

1.1.41 WORK - The term "Work" means all construction, services and other requirements of the Contract Documents as modified by Change Order, whether completed or partially completed, and includes all labor, materials, equipment, tools, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

1.2 OWNERSHIP AND USE OF CONTRACT DOCUMENTS

1.2.1 The Contract Documents and all copies thereof furnished to or provided by Contractor are the property of University and are not to be used on other work.

1.3 INTERPRETATION

1.3.1 The Contract Documents are complementary and what is required by one shall be as binding as if required by all. In the case of conflict between terms of the Contract Documents, the following order of precedence shall apply:

- .1 The Agreement,
- .2 The Supplementary Conditions,
- .3 The General Conditions,
- .4 The Specifications,
- .5 The Drawings.

1.3.2 With respect to the Drawings, figured dimensions shall control over scaled measurements and specific details shall control over typical or standard details.

1.3.3 With respect to the Contract Documents, Addenda shall govern over other portions of the Contract Documents to the extent specifically noted; subsequent Addenda shall govern over prior Addenda only to the extent specifically noted.

1.3.4 Organization of the Specifications into various subdivisions and the arrangement of the Drawings shall not control Contractor in dividing the Work among Subcontractors or in establishing the extent of work to be performed by any trade.

1.3.5 Unless otherwise stated in the Contract Documents, technical words and abbreviations contained in the Contract Documents are used in accordance with commonly understood construction industry meanings; and non-technical words and abbreviations are used in accordance with their commonly understood meanings.

1.3.6 The Contract Documents may omit modifying words such as "all" and "any," and articles such as "the" and "an," but the fact

that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word "including," when following any general statement, shall not be construed to limit such statement to specific items or matters set forth immediately following such word or to similar items or matters, whether or not nonlimiting language (such as "without limitation," "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement.

1.3.7 Whenever the context so requires, the use of the singular number shall be deemed to include the plural and vice versa. Each gender shall be deemed to include any other gender, and each shall include corporation, partnership, trust, or other legal entity whenever the context so requires. The captions and headings of the various subdivisions of the Contract Documents are intended only for reference and convenience and in no way define, limit, or prescribe the scope or intent of the Contract Documents or any subdivision thereof.

ARTICLE 2 **UNIVERSITY**

2.1 INFORMATION AND SERVICES PROVIDED BY UNIVERSITY

2.1.1 If required for performance of the Work, as determined by University's Representative, University will make available a survey describing known physical characteristics, boundaries, easements, and utility locations for the Project site.

2.1.2 University is not subject to any requirement to obtain or pay for local building permits, inspection fees, plan checking fees, or certain utility fees. Except as otherwise provided in the Contract Documents, University will obtain and pay for any utility permits, demolition permits, easements, and government approvals for the use or occupancy of permanent structures required in connection with the Work.

2.1.3 Contractor will be furnished, free of charge, such copies of the Contract Documents as University deems reasonably necessary for execution of the Work.

2.2 ACCESS TO PROJECT SITE

2.2.1 University will provide, no later than the date designated in the Contract Schedule accepted by University's Representative, access to the lands and facilities upon which the Work is to be performed, including such access and other lands and facilities designated in the Contract Documents for use by Contractor.

2.3 UNIVERSITY'S RIGHT TO STOP THE WORK

2.3.1 If Contractor fails to correct Defective Work as required by Article 12.2 or fails to perform the Work in accordance with the Contract Documents, University or University's Representative may direct Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated by Contractor. Contractor shall not be entitled to any adjustment of Contract Time or Contract Sum as a result of any such order. University and University's Representative have no duty or responsibility to Contractor or any other party to exercise the right to stop the Work.

2.4 UNIVERSITY'S RIGHT TO CARRY OUT THE WORK

2.4.1 If Contractor fails to carry out the Work in accordance with the Contract Documents, fails to provide sufficient labor, materials, equipment, tools, and services to maintain the Contract Schedule, or otherwise fails to comply with any material term of the Contract Documents, and, after receipt of written notice from University, fails within 2 days, excluding Saturdays, Sundays and legal holidays, or within such additional time as University may specify, to correct such failure, University may, without prejudice to other remedies University may have, correct such failure at Contractor's expense. In such case, University will be entitled to deduct from payments then or thereafter due Contractor the cost of correcting such failure, including without limitation compensation for the additional services and expenses of University's consultants made necessary thereby. If payments then or thereafter due Contractor are not sufficient to cover such amounts, Contractor shall pay the additional amount to University.

2.5 UNIVERSITY'S RIGHT TO REPLACE UNIVERSITY'S REPRESENTATIVE

2.5.1 University may at any time and from time to time, without prior notice to or approval of Contractor, replace University's Representative with a new University's Representative. Upon receipt of notice from University informing Contractor of such replacement and identifying the new University's representative, Contractor shall recognize such person or firm as University's Representative for all purposes under the Contract Documents.

ARTICLE 3 **CONTRACTOR**

3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.1.1 Contractor and its Subcontractors shall review and compare each of the Contract Documents with the others and with information furnished or made available by University, and shall promptly report in writing to University's Representative any errors, inconsistencies, or omissions in the Contract Documents or inconsistencies with Applicable Code Requirements observed by Contractor or its Subcontractors.

3.1.2 Contractor and its Subcontractors shall take field measurements, verify field conditions, and carefully compare with the Contract Documents such field measurements, conditions, and other information known to Contractor before commencing the Work. Errors, inconsistencies, or omissions discovered at any time shall be promptly reported in writing to University's Representative.

3.1.3 If Contractor and its Subcontractors perform any construction activity involving an error, inconsistency, or omission referred

to in Articles 3.1.1 and 3.1.2, without giving the notice required in those Articles and obtaining the written consent of University's Representative, Contractor shall be responsible for the resultant losses, including, without limitation, the costs of correcting Defective Work.

3.2 SUPERVISION AND CONSTRUCTION PROCEDURES

3.2.1 Contractor shall supervise, coordinate, and direct the Work using Contractor's best skill and attention. Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, procedures, and the coordination of all portions of the Work.

3.2.2 Contractor shall be responsible to University for acts and omissions of Contractor's agents, employees, and Subcontractors, and their respective agents and employees.

3.2.3 Contractor shall not be relieved of its obligation to perform the Work in accordance with the Contract Documents either by acts or omissions of University or University's Representative in the administration of the Contract, or by tests, inspections, or approvals required or performed by persons or firms other than Contractor.

3.2.4 Contractor shall be responsible for inspection of all portions of the Work, including those portions already performed under this Contract, to determine that such portions conform to the requirements of the Contract and are ready to receive subsequent Work.

3.2.5 Contractor shall at all times maintain good discipline and order among its employees and Subcontractors. Contractor shall provide competent, fully qualified personnel to perform the Work.

3.3 LABOR AND MATERIALS

3.3.1 Unless otherwise provided in the Contract, Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and Final Completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

3.4 CONTRACTOR'S WARRANTY

3.4.1 Contractor warrants to University that all materials and equipment used in or incorporated into the Work will be of good quality, new, and free of liens, claims, and security interests of third parties; that the Work will be of good quality and free from defects; and that the Work will conform with the requirements of the Contract. If required by University's Representative, Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

3.5 TAXES

3.5.1 Contractor shall pay all sales, consumer, use, and similar taxes for the Work or portions thereof provided by Contractor.

3.6 PERMITS, FEES, AND NOTICES

3.6.1 Except for the permits and approvals which are to be obtained by University or the requirements with respect to which University is not subject as provided in Article 2.1.2, Contractor shall secure and pay for all permits, approvals, government fees, licenses, and inspections necessary for the proper execution and performance of the Work. Contractor shall deliver to University all original licenses, permits, and approvals obtained by Contractor in connection with the Work prior to the final payment or upon termination of the Contract, whichever is earlier.

3.7 APPLICABLE CODE REQUIREMENTS

3.7.1 Contractor shall perform the Work in accordance with the following Applicable Code Requirements:

- .1 All laws, statutes, the most recent building codes, ordinances, rules, regulations, and lawful orders of all public authorities having jurisdiction over University, Contractor, any Subcontractor, the Project, the Project site, the Work, or the prosecution of the Work.
- .2 All requirements of any insurance company issuing insurance required hereunder.
- .3 The Federal Occupational Safety and Health Act and all other Applicable Code Requirements relating to safety.
- .4 Applicable titles in the State of California Code of Regulations.
- .5 Applicable sections in the State of California Labor Code.
- .6 All Applicable Code Requirements relating to nondiscrimination, payment of prevailing wages, payroll records, apprentices, and work day.

Without limiting the foregoing, Contractor shall comply with the provisions regarding nondiscrimination, payment of prevailing wages, payroll records, apprentices, and work day set forth in Article 14.

3.7.2 Contractor shall comply with and give notices required by all Applicable Code Requirements, including all environmental laws and all notice requirements under the State of California Safe Drinking Water and Enforcement Act of 1986 (State of California Health and Safety Code Section 25249.5 and applicable sections that follow). Contractor shall promptly notify University's Representative in writing if Contractor becomes aware during the performance of the Work that the Contract Documents are at variance with Applicable Code Requirements.

3.7.3 If Contractor performs Work which it knows or should know is contrary to Applicable Code Requirements, without prior notice to University and University's Representative, Contractor shall be responsible for such Work and any resulting damages including, without limitation, the costs of correcting Defective Work.

3.8 SUPERINTENDENT

3.8.1 Contractor shall employ a competent Superintendent satisfactory to University who shall be in attendance at the Project site at all times during the performance of the Work. Superintendent shall represent Contractor and communications given to and received from Superintendent shall be binding on Contractor.

3.8.2 Failure to maintain a Superintendent on the Project site at all times Work is in progress shall be considered a material breach of this Contract, entitling University to terminate the Contract or alternatively, issue a stop work order until the Superintendent is on the Project site. If, by virtue of issuance of said stop work order, Contractor fails to complete the Contract on time, Contractor will be assessed Liquidated Damages in accordance with the Agreement.

3.8.3 The Superintendent approved for the Project must be able to read, write and verbally communicate in English.

3.8.4 The Superintendent may not perform the Work of any trade, pick-up materials, or perform any Work not directly related to the supervision and coordination of the Work at the Project site when Work is in progress.

3.9 SCHEDULES REQUIRED OF CONTRACTOR

3.9.1 Contractor shall submit a Preliminary Contract Schedule to University's Representative in the form and within the time limit required by the Specifications. University's Representative will review the Preliminary Contract Schedule with Contractor within the time limit required by the Specifications or, if no such time period is specified, within a reasonable period of time.

3.9.2 Contractor shall submit a Contract Schedule and updated Contract Schedules to University's Representative in the form and within the time limits required by the Specifications and acceptable to University's Representative. University's Representative will determine acceptability of the Contract Schedule and updated Contract Schedules within the time limits required by the Specifications or, if no such time period is specified, within a reasonable period of time. If University's Representative deems the Contract Schedule or updated Contract Schedule unacceptable, it shall specify in writing to Contractor the basis for its objection.

3.9.3 The Preliminary Contract Schedule, the Contract Schedule, and updated Contract Schedules shall represent a practical plan to complete the Work within the Contract Time. Schedules showing the Work completed in less than the Contract Time may be acceptable if judged by University's Representative to be practical. Schedules showing the Work completed beyond the Contract Time may be submitted under the following circumstances:

- .1 If accompanied by a Change Order Request seeking an adjustment of the Contract Time consistent the requirements of Article 8.4 for Adjustment of the Contract Time for Delay; or
- .2 If the Contract Time has passed, or if it is a practical impossibility to complete the Work within the Contract Time, then the updated Contract Schedule or fragnet schedule shall show completion at the earliest practical date.

University's Representative will timely review the updated Contract Schedule or Fragnet Schedule submitted by Contractor. If University's Representative determines that additional supporting data are necessary to fully evaluate the updated Contract Schedule or Fragnet Schedule, University's Representative will request such additional supporting data in writing. Such data shall be furnished no later than 10 days after the date of such request. University's Representative will render a decision promptly and in any case within 30 days after the later of the receipt of the updated Contract Schedule or Fragnet Schedule or the deadline for furnishing such additional supporting data. Failure of University's Representative to render a decision by the applicable deadline will be deemed a decision denying approval of the updated Contract Schedule or Fragnet Schedule. Acceptance of any schedule showing completion beyond the Contract Time by University's Representative shall not change the Contract Time and is without prejudice to any right of University. The Contract Time, not the Contract Schedule, shall control in the determination of liquidated damages payable by Contractor under Article 4 and Article 5 of the Agreement and in the determination of any delay under Article 8 of the General Conditions.

3.9.4 If a schedule showing the Work completed in less than the Contract Time is accepted, Contractor shall not be entitled to extensions of the Contract Time for Excusable Delays or Compensable Delays or to adjustments of the Contract Sum for Compensable Delays until such delays extend the Final Completion of the Work beyond the expiration of the Contract Time.

3.9.5 Contractor shall prepare and keep current, to the reasonable satisfaction of University's Representative, a Submittal Schedule, in the form contained in the Exhibits, for each submittal, as required by the Specifications, and that are coordinated with the other activities in the Contract Schedule.

3.9.6 The Preliminary Contract Schedule, Contract Schedule, and the Updated Contract Schedules shall meet the following requirements:

- .1 Schedules must be suitable for monitoring progress of the Work.
- .2 Schedules must provide necessary data about the timing for University decisions and University furnished items.
- .3 Schedules must be in sufficient detail to demonstrate adequate planning for the Work.
- .4 Schedules must represent a practical plan to perform and complete the Work within the Contract Time.

3.9.7 University's Representative's review of the form and general content of the Preliminary Contract Schedule, Contract Schedule, and Updated Contract Schedules is for the purpose of determining if the above-listed requirements have been satisfied.

3.9.8 Contractor shall plan, develop, supervise, control, and coordinate the performance of the Work so that its progress and the sequence and timing of Work will permit its completion within the Contract Time, any Contract milestones and any Contract phases.

3.9.9 In preparing the Preliminary Contract Schedule, the Contract Schedule, and updated Contract Schedules, Contractor shall obtain such information and data from Subcontractors as may be required to develop a reasonable and appropriate schedule for performance of the work and shall provide such information and data to University's Representative upon request. Contractor shall

continuously obtain from Subcontractors information and data about the planning for and progress of the Work and the delivery of equipment, shall coordinate and integrate such information and data into updated Contract Schedules, as appropriate, and shall monitor the progress of the Work and the delivery of equipment.

3.9.10 Contractor shall act as the expeditor of potential and actual delays, interruptions, hindrances, or disruptions for its own forces and those forces of Subcontractors, regardless of tier.

3.9.11 Contractor shall cooperate with University's Representative in the development of the Contract Schedule and updated Contract Schedules. University's Representative's acceptance of or its review comments about any schedule or scheduling data shall not relieve Contractor from its sole responsibility to plan for, perform, and complete the Work within the Contract Time. Acceptance of or review comments about any schedule shall not transfer responsibility for any schedule to University's Representative or University nor imply their agreement with (1) any assumption upon which such schedule is based or (2) any matter underlying or contained in such schedule. Failure of University's Representative to discover errors or omissions in schedules that it has reviewed, or to inform Contractor that Contractor, Subcontractors, or others are behind schedule, or to direct or enforce procedures for complying with the Contract Schedule shall not relieve Contractor from its sole responsibility to perform and complete the Work within the Contract Time and shall not be a cause for an adjustment of the Contract Time or the Contract Sum.

3.10 AS-BUILT DOCUMENTS

3.10.1 Contractor shall maintain one set of As-built drawings and specifications, which shall be kept up to date during the Work of the Contract. All changes which are incorporated into the Work which differ from the documents as drawn and written shall be noted on the As-built set. Notations shall reflect the actual materials, equipment and installation methods used for the Work and each revision shall be initialed and dated by Superintendent. Prior to filing of the Notice of Completion each drawing and the specification cover shall be signed by Contractor and dated attesting to the completeness of the information noted therein. As-built Documents shall be turned over to University's Representative and shall become part of the Record Documents.

3.11 DOCUMENTS AND SAMPLES AT PROJECT SITE

3.11.1 Contractor shall maintain the following at the Project site:

- .1 One as-built copy of the Contract Documents, in good order and marked to record current changes and selections made during construction.
- .2 The current accepted Contract Schedule.
- .3 Shop Drawings, Product Data, and Samples.
- .4 All other required submittals.

These shall be available to University's Representative and shall be delivered to University's Representative for submittal to University upon the earlier of Final Completion or termination of the Contract.

3.12 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND ENVIRONMENTAL PRODUCT DECLARATIONS

3.12.1 Definitions:

- .1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by Contractor or a Subcontractor to illustrate some portion of the Work.
- .2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by Contractor to illustrate or describe materials or equipment for some portion of the Work.
- .3 Samples are physical examples which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.
- .4 Environmental Product Declarations are those documents and other submissions required to be furnished by Contractor or a Subcontractor pursuant to California Public Contract Code Section 3500 et seq., the Buy Clean California Act (BCCA), as further described in Article 3.12.9 below.

3.12.2 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate, for those portions of the Work for which submittals are required, how Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

3.12.3 Contractor shall review, approve, and submit to University's Representative Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of University or of Separate Contractors. Submittals made by Contractor which are not required by the Contract Documents may be returned without action by University's Representative.

3.12.4 Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been reviewed by University's Representative and no exceptions have been taken by University's Representative. Such Work shall be in accordance with approved submittals and the Contract Documents.

3.12.5 By approving and submitting Shop Drawings, Product Data, Samples, and similar submittals, Contractor represents that it has determined or verified materials and field measurements and conditions related thereto, and that it has checked and coordinated the information contained within such submittals with the requirements of the Contract Documents and Shop Drawings for related Work.

3.12.6 If Contractor discovers any conflicts, omissions, or errors in Shop Drawings or other submittals, Contractor shall notify University's Representative and receive instruction before proceeding with the affected Work.

3.12.7 Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by University's

Representative's review of Shop Drawings, Product Data, Samples, or similar submittals, unless Contractor has specifically informed University's Representative in writing of such deviation at the time of submittal and University's Representative has given written approval of the specific deviation. Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by University's Representative's review, acceptance, comment, or approval thereof.

3.12.8 Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by University's Representative on previous submittals.

3.12.9 Environmental Product Declarations

3.12.9.1 Contractor on construction contracts \$1,000,000 and above shall comply with California Public Contract Code Section 3500 et seq., the Buy Clean California Act ("BCCA").

3.12.9.2 Compliance with the BCCA and this Article applies to all Eligible Materials for the Project.

See Supplementary Conditions

3.13 USE OF SITE AND CLEAN UP

3.13.1 Contractor shall confine operations at the Project site to areas permitted by law, ordinances, permits, and the Contract Documents. Contractor shall not unreasonably encumber the Project site with materials or equipment.

3.13.2 Contractor shall, during performance of the Work, keep the Project site and surrounding area free from the accumulation of excess dirt, waste materials, and rubbish caused by Contractor. Contractor shall remove all excess dirt, waste material, and rubbish caused by Contractor; tools; equipment; machinery; and surplus materials from the Project site and surrounding area at the completion of the Work.

3.13.3 Personnel of Contractor and Subcontractors shall not occupy, live upon, or otherwise make use of the Project site during any time that Work is not being performed at the Project site, except as otherwise provided in the Contract Documents.

3.14 CUTTING, FITTING, AND PATCHING

3.14.1 Contractor shall do all cutting, fitting, or patching of the Work required to make all parts of the Work come together properly and to allow the Work to receive or be received by work of Separate Contractors shown upon, or reasonably implied by, the Contract Documents.

3.14.2 Contractor shall not endanger the Work, the Project, or adjacent property by cutting, digging, or otherwise. Contractor shall not cut or alter the work of any Separate Contractor without the prior consent of University's Representative.

3.15 ACCESS TO WORK

3.15.1 University, University's Representative, their consultants, and other persons authorized by University will at all times have access to the Work wherever it is in preparation or progress. Contractor shall provide safe and proper facilities for such access and for inspection.

3.16 ROYALTIES AND PATENTS

3.16.1 Contractor shall pay all royalties and license fees required for the performance of the Work. Contractor shall defend suits or claims resulting from Contractor's or any Subcontractor's infringement of patent rights and shall indemnify, defend and hold harmless University and University's Representative from losses on account thereof.

3.17 DIFFERING SITE CONDITIONS

3.17.1 If Contractor encounters any of the following conditions at the site, Contractor shall immediately notify University's Representative in writing of the specific differing conditions before they are disturbed and before any affected Work is performed, and permit investigation of the conditions:

- .1 Subsurface or latent physical conditions at the site (including Hazardous Materials) which differ materially from those indicated in this Contract, or if not indicated in this Contract, in the Information Available to Bidders; or
- .2 Unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

3.17.2 Contractor shall be entitled to an adjustment to the Contract Sum and/or Contract Time as the result of extra costs and/or delays resulting from a materially differing site condition, if and only if Contractor fulfills the following conditions:

- .1 Contractor fully complies with Article 3.17.1; and
- .2 Contractor fully complies with Article 4 (including the timely filing of a Change Order Request and all other requirements for Change Orders Requests and Claims).

3.17.3 Adjustments to the Contract Sum and/or Contract Time shall be subject to the procedures and limitations set forth in Articles 7 and 8.

3.18 CONCEALED, UNFORESEEN, OR UNKNOWN CONDITIONS OR EVENTS

3.18.1 Except and only to the extent provided otherwise in Articles 3.17, 7 and 8 of the General Conditions, by signing the Agreement, Contractor agrees:

- .1 To bear the risk of concealed, unforeseen or unknown conditions or events, if any, which may be encountered in

- performing the Contract; and
- .2 That Contractor's bid for the Contract was made with full knowledge of this risk.

In agreeing to bear the risk of concealed, unforeseen or unknown conditions or events, Contractor understands that, except and only to the extent provided otherwise in Articles 3.17, 7 and 8, concealed, unforeseen or unknown conditions or events shall not excuse Contractor from its obligation to achieve Final Completion of the Work within the Contract Time, and shall not entitle Contractor to an adjustment of the Contract Sum.

3.18.2 If Contractor encounters concealed, unforeseen or unknown conditions or events that may require a change to the design shown in the Contract Documents, Contractor shall immediately notify University's Representative in writing such that University's Representative can determine if a change to the design is required. Contractor shall be liable to University for any extra costs incurred as the result of Contractor's failure to immediately give such notice.

3.18.3 If, as the result of concealed, unforeseen or unknown conditions or events, University issues a Change Order or Field Order that changes the design from the design depicted in the Contract Documents, Contractor shall be entitled, subject to compliance with all the provisions of the Contract, including those set forth in Articles 4, 7 and 8, to an adjustment of the Contract Sum and/or Contract Time, for the cost and delay resulting from implementing the changes to the design. Except as provided in this Article 3.18.3, or as may be expressly provided otherwise in the Contract, there shall be no adjustment of the Contract Sum and/or Contract Time as a result of concealed, unforeseen or unknown conditions or events.

3.18.4 Contractor shall, as a condition precedent to any adjustment in Contract Sum or Contract Time under Article 3.18.3, fully comply with Article 4 (including the timely filing of a Change Order Request and all other requirements for Change Orders Requests and Claims).

3.19 HAZARDOUS MATERIALS

3.19.1 University shall not be responsible for any Hazardous Material brought to the site by Contractor.

3.19.2 If Contractor: (i) introduces and/or discharges a Hazardous Material onto the site in a manner not specified by the Contract Documents; and/or (ii) disturbs a Hazardous Material identified in the Contract Documents, Contractor shall hire a qualified remediation contractor at Contractor's sole cost to eliminate the condition as soon as possible. Under no circumstance shall Contractor perform Work for which it is not qualified. University, in its sole discretion, may require Contractor to retain at Contractor's cost an independent testing laboratory.

3.19.3 If Contractor encounters a Hazardous Material which may cause foreseeable injury or damage, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such material or substance (except in an emergency situation); and (iii) notify University (and promptly thereafter confirm such notice in writing).

3.19.4 Subject to Contractor's compliance with Article 3.19.3, University shall verify the presence or absence of the Hazardous Material reported by Contractor, except as qualified under Section 3.19.1 and 3.19.2, and, in the event such material or substance is found to be present, verify that the levels of the hazardous material are below OSHA Permissible Exposure Levels and below levels which would classify the material as a state of California or federal hazardous waste. When the material falls below such levels, Work in the affected area shall resume upon direction by University. The Contract Time and Sum shall be extended appropriately as provided in Articles 7 and 8.

3.19.5 University shall indemnify and hold harmless Contractor from and against claims, damages, losses and expenses, arising from a Hazardous Material on the Project site, if such Hazardous Material: (i) was not shown on the Contract Documents or Information Available to Bidders; (ii) was not brought to the site by Contractor; and (iii) exceeded OSHA Permissible Exposure Levels or levels which would classify the material as a state of California or federal hazardous waste. The indemnity obligation in this Article shall not apply to:

- .1 claims, damages, losses or expenses arising from the breach of contract, negligence or willful misconduct of Contractor, its suppliers, its Subcontractors of all tiers and/or any persons or entities working under Contractor; and
- .2 claims, damages, losses or expenses arising from a Hazardous Material subject to Article 3.19.2.

3.19.6 In addition to the requirements in Article 3.22, Contractor shall indemnify and hold harmless the University from and against claims, damages, losses and expenses, arising from a Hazardous Material on the Project site, if such Hazardous Material exceeded OSHA Permissible Exposure Levels or levels which would classify the material as a state of California or federal hazardous waste, and was either i) shown on the Contract Documents or Information Available to Bidders; or (ii) brought to the site by Contractor. Nothing in this paragraph shall obligate the Contractor to indemnify University in the event of the sole negligence of the University, its officers, agents, or employees.

3.20 INFORMATION AVAILABLE TO BIDDERS

3.20.1 Any information provided pursuant to Information Available to Bidders is subject to the following provisions:

- .1 The information is made available for the convenience of Bidders and is not a part of the Contract.
- .2 Contractor may rely on written descriptions of physical conditions included in the information to the extent such reliance is reasonable.
- .3 Other components of the information, including but not limited to recommendations, may not be relied upon by Contractor. University shall not be responsible for any interpretation of or conclusion drawn from the other components of the information by Contractor.

3.21 LIABILITY FOR AND REPAIR OF DAMAGED WORK

3.21.1 Contractor shall be liable for any and all damages and losses to the Project (whether by fire, theft, vandalism, earthquake or otherwise) prior to University's acceptance of the Project as fully completed except that Contractor shall not be liable for damages and losses to the Project caused by earthquake in excess of magnitude 3.5 on the Richter Scale, tidal wave, or flood, provided that the damages or losses were not caused in whole or in part by the negligent acts or omissions of Contractor, its officers, agents or employees (including all Subcontractors and suppliers of all tiers). As used herein, "flood" shall have the same meaning as in the builder's risk property insurance.

3.21.2 Contractor shall promptly repair and replace any Work or materials damaged or destroyed for which Contractor is liable under Article 3.21.1.

3.22 INDEMNIFICATION

3.22.1 Contractor shall indemnify, defend and hold harmless University, University's consultants, University's Representative, University's Representative's consultants, and their respective directors, officers, agents, and employees from and against losses (including without limitation the cost of repairing defective work and remedying the consequences of defective work) arising out of, resulting from, or relating to the following:

- .1 The failure of Contractor to perform its obligations under the Contract.
- .2 The inaccuracy of any representation or warranty by Contractor given in accordance with or contained in the Contract Documents.
- .3 Any claim of damage or loss by any Subcontractor against University arising out of any alleged act or omission of Contractor or any other Subcontractor, or anyone directly or indirectly employed by Contractor or any Subcontractor.
- .4 Any claim of damage or loss resulting from Hazardous Materials introduced, discharged, or disturbed by Contractor as required per Article 3.19.6.

3.22.2 University shall not be liable or responsible for any accidents, loss, injury (including death) or damages happening or accruing during the term of the performance of the Work herein referred to or in connection therewith, to persons and/or property, and Contractor shall fully indemnify, defend and hold harmless University and protect University from and against the same as provided in Article 3.22.1 above. In addition to the liability imposed by law upon Contractor for damage or injury (including death) to persons or property by reason of the negligence of Contractor, its officers, agents, employees or Subcontractors, which liability is not impaired or otherwise affected hereby, Contractor shall defend, indemnify, hold harmless, release and forever discharge University, its officers, employees, and agents from and against and waive any and all responsibility of same for every expense, liability, or payment by reason of any damage or injury (including death) to persons or property suffered or claimed to have been suffered through any negligent act, omission, or willful misconduct of Contractor, its officers, agents, employees, or any of its Subcontractors, or anyone directly or indirectly employed by either of them or from the condition of the premises or any part of the premises while in control of Contractor, its officers, agents, employees, or any of its Subcontractors or anyone directly or indirectly employed by either of them, arising out of the performance of the Work called for by this Contract. Contractor agrees that this indemnity and hold harmless shall apply even in the event of negligence of University, its officers, agents, or employees, regardless of whether such negligence is contributory to any claim, demand, loss, damage, injury, expense, and/or liability; but such indemnity and hold harmless shall not apply (i) in the event of the sole negligence of University, its officers, agents, or employees; or (ii) to the extent that University shall indemnify and hold harmless Contractor for Hazardous Materials pursuant to Article 3.19.5.

3.22.3 In claims against any person or entity indemnified under this Article 3.22 that are made by an employee of Contractor or any Subcontractor, a person indirectly employed by Contractor or any Subcontractor, or anyone for whose acts Contractor or any Subcontractor may be liable, the indemnification obligation under this Article 3.22 shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for Contractor or any Subcontractor under Workers' Compensation acts, disability benefit acts, or other employee benefit acts.

3.22.4 The indemnification obligations under this Article 3.22 shall not be limited by any assertion or finding that the person or entity indemnified is liable by reason of a non-delegable duty.

3.22.5 Contractor shall indemnify University from and against Losses resulting from any claim of damage made by any Separate Contractor against University arising out of any alleged acts or omissions of Contractor, any Subcontractor, anyone directly or indirectly employed by either of them, or anyone for whose acts either of them may be liable.

3.22.6 Contractor shall indemnify Separate Contractors from and against Losses arising out of the negligent acts, omissions, or willful misconduct of Contractor, any Subcontractor, anyone directly or indirectly employed by either of them, or anyone for whose acts either of them may be liable.

3.23 UNIVERSITY-DESIGNATED DATA SYSTEMS

3.23.1 Contractor is required to use University-designated data systems, which may include but is not limited to those for document review workflows, document retention, labor compliance software, and supplier diversity software.

ARTICLE 4 **ADMINISTRATION OF THE CONTRACT**

4.1 ADMINISTRATION OF THE CONTRACT BY UNIVERSITY'S REPRESENTATIVE

4.1.1 University's Representative will provide administration of the Contract as provided in the Contract Documents and will be the representative of University. University's Representative will have authority to act on behalf of University only to the extent provided in the Contract Documents.

4.1.2 University's Representative will have the right to visit the Project site at such intervals as deemed appropriate by University's Representative. However, no actions taken during such Project site visit by University's Representative shall relieve Contractor of its obligations as described in the Contract Documents.

4.1.3 University's Representative will not have control over, will not be in charge of, and will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely Contractor's responsibility.

4.1.4 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, University and Contractor shall communicate through University's Representative. Except when direct communication has been specifically authorized in writing by University Representative, communications by Contractor with University's consultants and University's Representative's consultants shall be through University's Representative. Communications by University and University's Representative with Subcontractors will be through Contractor. Communications by Contractor and Subcontractors with Separate Contractors shall be through University's Representative. Contractor shall not rely on oral or other non-written communications.

4.1.5 Based on University's Representative's Project site visits and evaluations of Contractor's Applications for Payment, University's Representative will recommend amounts, if any, due Contractor and will issue Certificates for Payment in such amounts.

4.1.6 University's Representative will have the authority to reject the Work, or any portion thereof, which does not conform to the Contract Documents. University's Representative will have the authority to stop the Work or any portion thereof. Whenever University's Representative considers it necessary or advisable for implementation of the intent of the Contract Documents, University's Representative will have the authority to require additional inspection or testing of the Work in accordance with the Contract Documents, whether or not such Work is fabricated, installed, or completed. However, no authority of University's Representative conferred by the Contract Documents nor any decision made in good faith either to exercise or not exercise such authority, will give rise to a duty or responsibility of University or University's Representative to Contractor, or any person or entity claiming under or through Contractor.

4.1.7 University's Representative will have the authority to conduct inspections as provided in the Contract Documents, to take Beneficial Occupancy and to determine the dates of Substantial Completion and Final Completion; will receive for review and approval any records, written warranties, and related documents required by the Contract Documents and assembled by Contractor; and will issue a final Certificate for Payment upon Contractor's compliance with the requirements of the Contract Documents.

4.1.8 University's Representative will be, in the first instance, the interpreter of the requirements of the Contract Documents and the judge of performance thereunder by Contractor. Should Contractor discover any conflicts, omissions, or errors in the Contract Documents; have any questions about the interpretation or clarification of the Contract Documents; question whether Work is within the scope of the Contract Documents; or question that Work required is not sufficiently detailed or explained, then, before proceeding with the Work affected, Contractor shall notify University's Representative in writing and request interpretation, clarification, or furnishing of additional detailed instructions. University's Representative's response to questions and requests for interpretations, clarifications, instructions, or decisions will be made with reasonable promptness. Should Contractor proceed with the Work affected before receipt of a response from University's Representative, any portion of the Work which is not done in accordance with University's Representative's interpretations, clarifications, instructions, or decisions shall be removed or replaced and Contractor shall be responsible for all resultant losses.

4.2 CONTRACTOR CHANGE ORDER REQUESTS

4.2.1 Contractor may request changes to the Contract Sum and/or Contract Time for Extra Work, materially differing site conditions, or Delays to Final Completion of the Work.

4.2.2 Conditions precedent to obtaining an adjustment of the Contract Sum and/or Contract Time, payment of money, or other relief with respect to the Contract Documents, for any other reason, are:

- .1 Timely submission of a Change Order Request that meets the requirements of Articles 4.2.3.1 and 4.2.3.2; and
- .2 If requested, timely submission of additional information requested by University Representative pursuant to Article 4.2.3.3.

4.2.3 Change Order Request:

- .1 A Change Order Request will be deemed timely submitted if, and only if, it is submitted within 7 days of the date Contractor discovers, or reasonably should discover the circumstances giving rise to the Change Order Request, unless additional time is allowed in writing by University's Representative for submission of the Change Order Request, provided that if:
 - .1 the Change Order Request includes compensation sought by a Subcontractor; AND
 - .2 Contractor requests in writing to University's Representative, within the 7-day time period, additional time to permit Contractor to conduct an appropriate review of the Subcontractor Change Order Request,the time period for submission of the actual Change Order Request shall be extended by the number of days specified in writing by University's Representative.
- .2 A Change Order Request must state that it is a Change Order Request, state and justify the reason for the request, and specify the amount of any requested adjustment of the Contract Sum, Contract Time, and/or other monetary relief. If Contractor requests an adjustment to the Contract Sum or other monetary relief, Contractor shall submit the following with the Change Order Request:
 - .1 a completed Cost Proposal in the form contained in the Exhibits meeting the requirements of Article 7; OR
 - .2 a partial Cost Proposal and a declaration of what required information is not then known to Contractor.

If Contractor failed to submit a completed Cost Proposal with the Change Order Request, Contractor shall submit a completed Cost Proposal meeting the requirements of Article 7 within 7 days of the date Contractor submitted the Change Order Request unless additional time is allowed by University's Representative.

- .3 Upon request of University's Representative, Contractor shall submit such additional information as may be requested by University's Representative for the purpose of evaluating the Change Order Request. Such additional information may include:
 - .1 If Contractor seeks an adjustment of the Contract Sum or other monetary relief, actual cost records for any changed or extra costs (including without limitation, payroll records, material and rental invoices and the like), shall be submitted by the deadline established by University's Representative, who may require such actual cost records to be submitted and reviewed, on a daily basis, by University's Representative and/or representatives of University's Representative.
 - .2 If Contractor seeks an adjustment of the Contract Time, written documentation demonstrating Contractor's entitlement to a time extension under Article 8.4, which shall be submitted within 15 days of the date requested. If requested, Contractor may submit a fragnet in support of its request for a time extension. University may, but is not obligated to, grant a time extension on the basis of a fragnet alone which, by its nature, is not a complete schedule analysis. If deemed appropriate by University's Representative, Contractor shall submit a more detailed schedule analysis in support of its request for a time extension.
 - .3 If Contractor seeks an adjustment of the Contract Sum or other monetary relief for delay, written documentation demonstrating Contractor's entitlement to such an adjustment under Article 7.3.9, which shall be submitted within 15 days of the date requested.
 - .4 Any other information requested by University's Representative for the purpose of evaluating the Change Order Request, which shall be submitted by the deadline established by University's Representative.

4.2.4 University's Representative will make a decision on a Change Order Request within a reasonable time after receipt of a Change Order Request. In the event the Change Order Request is submitted pursuant to Article 8.4.1, University's Representative will promptly review and accept or reject it within 30 days. A final decision is any decision on a Change Order Request which states that it is final. If University's Representative issues a final decision denying a Change Order Request in whole or in part, Contractor may contest the decision by filing a timely Claim under the procedures specified in Article 4.4.

4.2.5 Contractor may file a written demand for a final decision by University's Representative on all or part of any Change Order Request as to which University's Representative has not previously issued a final decision pursuant to Article 4.2.4; such written demand may not be made earlier than the 30th day after submission of the Change Order Request. Within 30 days of receipt of the demand, University's Representative will issue a final decision on the Change Order Request. University's Representative's failure to issue a decision within the 30-day period shall be treated as the issuance, on the last day of the 30-day period, of a final decision to deny the Change Order Request in its entirety.

4.3 CLAIMS

4.3.1 The term "Claim" means a written demand or assertion by Contractor seeking an adjustment or interpretation of the terms of the Contract Documents, payment of money, extension of time, or other relief with respect to the Contract Documents, including a determination of disputes or matters in question between University and Contractor arising out of or related to the Contract Documents or the performance of the Work. However, the term "Claim" shall not include, and the Claims procedures provided under this Article 4, including but not limited to arbitration, shall not apply to the following:

- .1 Claims respecting penalties for forfeitures prescribed by statute or regulation which a government agency is specifically authorized to administer, settle, or determine.
- .2 Claims respecting personal injury, death, reimbursement, or other compensation arising out of or resulting from liability for personal injury or death.
- .3 Claims by University, except as set forth in Articles 4.5, 4.6 and 4.7.
- .4 Claims respecting stop payment notices.

4.3.2 A Claim arises upon the issuance of a written final decision denying in whole or in part Contractor's Change Order Request pursuant to Articles 4.2.4 and 4.2.5.

4.3.3 A Claim must include the following:

- .1 A statement that it is a Claim and a request for a decision pursuant to Article 4.5.
- .2 A detailed factual narrative of events fully describing the nature and circumstances giving rise to the Claim, including but not limited to, necessary dates, locations, and items of work affected.
- .3 A certification, executed by Contractor, that the claim is filed in good faith. The certification must be made on the Claim Certification form, included in the Exhibits to the Contract. The language of the Claim Certification form may not be modified.
- .4 A certification, executed by each Subcontractor claiming not less than 5% of the total monetary amount sought by the claim, that the subcontractor's portion of the claim is filed in good faith. The certification must be made on the Claim Certification form, included in the Exhibits to the Contract. The language of the Claim Certification form may not be modified.
- .5 A statement demonstrating that a Change Order Request was timely submitted as required by Article 4.2.3
- .6 If a Cost Proposal or declaration was required by Article 4.2.3, a statement demonstrating that the Cost Proposal or the declaration was timely submitted as required by Article 4.2.3.

- .7 A detailed justification for any remedy or relief sought by the Claim, including to the extent applicable, the following:
- .1 If the Claim involves Extra Work, a detailed cost breakdown of the amounts claimed, including the items specified in Article 7.3.2. An estimate of the costs must be provided even if the costs claimed have not been incurred when the Claim is submitted. To the extent costs have been incurred when the Claim is submitted, the Claim must include actual cost records (including without limitation, payroll records, material and rental invoices and the like) demonstrating that costs claimed have actually been incurred. To the extent costs have not yet been incurred at the time the Claim is submitted, actual cost records must be submitted on a current basis not less than once a month during any periods costs are incurred. A cost record will be considered current if submitted within 30 days of the date the cost reflected in the record is incurred. At the request of University's Representative, claimed extra costs may be subject to further verification procedures (such as having an inspector verify the performance of alleged Extra Work on a daily basis). The cost breakdown must include an itemization of costs for i) labor including workers' names, classifications, regular hours and overtime hours worked, dates worked, and other pertinent information; ii) materials stored or incorporated in the work including invoices, purchase orders, location of materials either stored or incorporated into the work, dates materials were transported to the project or incorporated into the work, and other pertinent information; and iii) itemization of machinery and equipment including make, model, hours of use, dates of use and equipment rental rates of any rented equipment.
 - .2 If the Claim involves an extension of the Contract Time, written documentation demonstrating Contractor's entitlement to a time extension under Article 8.4, including the specific dates for which a time extension is sought and the specific reasons for entitlement of a time extension.
 - .3 If the Claim involves an adjustment of the Contract Sum for delay, written documentation demonstrating Contractor's entitlement to such an adjustment under Article 7.3.9, including but not limited to, a detailed time impact analysis of the Contract Schedule. The Contract Schedule must demonstrate Contractor's entitlement to such an adjustment under Article 7.3.9.

4.4 ASSERTION OF CLAIMS

4.4.1 Claims by Contractor shall be first submitted to University's Representative for decision.

4.4.2 Notwithstanding the making of any Claim or the existence of any dispute regarding any Claim, unless otherwise directed by University's Representative, Contractor shall not cause any delay, cessation, or termination in or of Contractor's performance of the Work, but shall diligently proceed with performance of the Work in accordance with the Contract Documents.

4.4.3 Contractor shall submit a Claim in writing, together with all supporting data specified in Article 4.3.3, to University's Representative as soon as possible but not later than 30 days after the date the Claim arises under Article 4.3.2, provided that after written notification to University's Representative within such time period, the time period for submission of the Claim shall be extended by the number of days specified in writing by University's Representative where the Claim includes compensation sought by a Subcontractor and Contractor requests an extension of time to permit it to discharge its responsibilities to conduct an appropriate review of the Subcontractor claim.

4.4.4 Strict compliance with the requirements of Articles 4.2, 4.3 and 4.4 are conditions precedent to Contractor's right to an informal conference to meet and confer to resolve a Claim, mediate a Claim, or arbitrate or litigate a Claim. Contractor specifically agrees to assert no Claims via an informal conference, mediation, arbitration or litigation unless there has been strict compliance with Articles 4.2, 4.3, and 4.4. The failure of Contractor to strictly comply with the requirements of Articles 4.2, 4.3 and 4.4 constitutes a failure by Contractor to exhaust its administrative remedies with the University, thereby denying any court or arbitration panel of jurisdiction to adjudicate the Claim.

4.5 DECISION OF UNIVERSITY'S REPRESENTATIVE ON CLAIMS

4.5.1 University's Representative will timely review Claims submitted by Contractor. If University's Representative determines that additional supporting data are necessary to fully evaluate a Claim, University's Representative will request such additional supporting data in writing. Such data shall be furnished no later than 10 days after the date of such request. University's Representative will render a decision promptly and in any case within 30 days after the later of the receipt of the Claim or the deadline for furnishing such additional supporting data; provided that, if the amount of the Claim is in excess of \$50,000, the aforesaid 30-day period shall be 45 days. Failure of University's Representative to render a decision by the applicable deadline will be deemed a decision denying the Claim on the date of the deadline, unless, upon receipt of a Claim, Contractor and University mutually agree to extend the time periods provided herein, or unless otherwise extended by law. The decision of University's Representative will be final and binding unless appealed in accordance with Articles 4.5.2, 4.6, and 4.7. The University's Representative's decision on a Claim or dispute will include a written statement both identifying all disputed and undisputed portions of the Claim and substantially including the following:

"This is a decision under Article 4.5 of the General Conditions of your contract. If you are dissatisfied with the decision, and if you complied with the procedural requirements for asserting claims specified in Article 4 of the General Conditions of your contract, you may have the right to demand in writing an informal conference to meet and confer for settlement of any remaining issues in dispute, following which, if still dissatisfied, you may demand in writing a further resolution via nonbinding mediation, after which you have the right to arbitrate or litigate this decision. If you fail to take appropriate action within 30 days of the date of this decision, the decision shall become final and binding and not subject to further appeal."

4.5.2 If either Contractor or University disputes University's Representative's decision on a Claim, then, within 30 days after the decision of University's Representative on the Claim, or, if no decision has been issued, within 30 days from the date of the applicable deadline in Article 4.5.1 for University Representative to render a decision, such party (the "Disputing Party") must provide written notice demanding an informal conference to meet and confer. University shall schedule the conference within 30 days upon receipt of the notice demanding an informal conference. The parties will attempt in good faith to resolve any controversy or Claim arising out of or relating to this Contract by negotiation at the conference.

4.6 MEDIATION

4.6.1 Within 10 business days following the informal conference to meet and confer stated in Article 4.5.2, if the Claim or any portion of the Claim remains in dispute, the University shall provide a written statement identifying the disputed and undisputed portions of the Claim. Within 30 days of receipt of the statement, if either Contractor or University disputes any portion of the Claim, then the Disputing Party must provide written notice to the non-disputing party demanding non-binding mediation. The Contractor and the University shall share the associated costs equally and shall mutually agree to a mediator within 10 business days. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim, with each party bearing the fees and costs of its respective mediator. Mediation shall include, but not be limited to, neutral evaluation, a dispute review board, or other negotiation or evaluation through an independent third party or board. The Contractor and the University may mutually agree to waive any individual mediation in writing and proceed to arbitration or litigation pursuant to this Contract.

4.7 LITIGATION AND ARBITRATION

4.7.1 Either party may provide a written notice of its election to arbitrate or provide written notice of its election to litigate the Claim within 30 days after the mediation pursuant to Article 4.6.1, or, if the parties mutually agreed in writing to waive mediation, within 30 days after the agreement is signed by both parties.

4.7.2 If a notice of election to arbitrate or litigate is not given by either party within 30 days pursuant to Article 4.7.1, University's Representative's decision on the Claim will be final and binding and not subject to appeal or challenge.

4.7.3 If the Disputing Party gives timely notice of its election to arbitrate the University's Representative's decision on a Claim, Disputing Party shall have the right, within 120 days after a Notice of Completion, or a Notice of Cessation, as applicable, is filed for the Contract, to make a demand for arbitration in accordance with Article 4.7. Failure to perfect a Claim for which a timely election to arbitrate has been made by the timely filing of a demand for arbitration and timely payment of all applicable and required fees to the American Arbitration Association ("AAA") shall result in the University's Representative's decision on said Claim becoming final and binding and not subject to appeal or challenge. If the Disputing Party makes a timely demand for arbitration, and the amount of the Claim in question, when combined with all other Claims, if any, which are the subject of previously filed demands for arbitration that have not been resolved by settlement or arbitration award, is \$100,000 or more, then the other party may elect to litigate all such Claims by filing a written notice with the AAA within 30 days after its receipt of notice from the AAA of the Disputing Party's demand for arbitration of the Claim that raises the total amount of Claims subject to arbitration to \$100,000 or more. If the other party fails to give notice of its election to litigate within such 30-day period, it shall be deemed to have consented to arbitration and waived the right to litigate. If after commencement of arbitration the amount of unresolved Claims in arbitration are allowed to be increased to \$100,000 or more, through an AAA-allowed amendment or otherwise, either party may elect to litigate within 30 days following the date that the electing party first receives written notification from the AAA that total Claims in arbitration equal or exceed \$100,000. If neither party gives notice of its election to litigate within such 30-day period as applicable, then both parties shall be deemed to have consented to arbitration and waived the right to litigate..

4.7.4 A demand for arbitration pursuant to Article 4.7.3 shall include a copy of the Claim presented to University's Representative pursuant to Article 4.4, a copy of the decision of University's Representative pursuant to Article 4.5, if any, a copy of the University's written statement identifying the portion of the Claim that remained in dispute following the informal conference pursuant to Article 4.6.1, and a summary of the remaining portions of the Claim in dispute. The demand shall state the amount in controversy, if any, and state the remedy sought. The demand shall identify the University's Responsible Administrator as the representative of the responding party and the Office of the General Counsel as counsel for the responding party. The demand shall be filed with the AAA and shall not be deemed to have been made until all applicable fees have been paid to the AAA by the demanding party. Copies of the demand and attachments shall be sent to University's Responsible Administrator as the representative of the responding party and the University's Office of General Counsel as attorney for the responding party, at the addresses set forth in the Project Directory, at the time the demand for arbitration is initiated with the AAA.

4.7.5 Except as modified by this Article 4.7, arbitration shall be initiated and conducted in accordance with the Construction Industry Arbitration Rules of the AAA then in effect. The following additional modifications shall be made to the aforesaid AAA rules:

- .1 Civil discovery shall be permitted for the production of documents and taking of depositions. Other discovery may be permitted at the discretion of the arbitrator. All disputes regarding discovery shall be decided by the arbitrator.
- .2 University's Representative and/or University's consultants, shall if required by agreement with University, upon demand by University join in and be bound by the Arbitration. University's Representative and University's consultants will have the same rights in any arbitration proceeding as are afforded by the AAA rules to Contractor and University.
- .3 Contractor's sureties shall be bound by any arbitration award and may join in any arbitration proceeding.
- .4 Except as provided in Articles 4.7.5.2.2. and 4.7.25.3 above, no Subcontractor or other person shall have a right or obligation to join in or be a party to any arbitration proceeding provided for in this Article 4 either directly, by joinder, by consolidation or actions, by counterclaim or crossclaim, or otherwise without the express written consent of University, Contractor, and the joining party.
- .5 If more than one demand for arbitration is made by a party with respect to Claims referred to University's Representative, all such Claims shall be consolidated into a single arbitration unless the parties otherwise agree

- in writing.
- .6 If total Claims are less than \$50,000, the AAA expedited procedures as modified by this Article 4 shall apply. If total Claims are between \$50,000 and \$100,000 they shall be heard by a single arbitrator who shall be an attorney. If total Claims are in excess of \$100,000 and are submitted to arbitration, either by agreement or by failure to elect litigation the controversy shall be heard by a panel of three arbitrators, one of which shall be an attorney.
 - .7 No arbitrator shall be appointed and no discovery may be commenced prior to the date of Final Completion unless University and Contractor otherwise agree.
 - .8 The exclusive forum for determining arbitrability shall be the Superior Court of the State of California. The AAA shall not submit to any arbitrator any matter concerning the arbitrability of the dispute if the arbitrability is contested.
 - .9 If the expedited procedures of the AAA are applicable, the AAA shall submit simultaneously to each party an identical list of 7 proposed arbitrators drawn from the National Panel of Commercial Arbitrators, and each party may strike 3 names from the list on a peremptory basis and return the list to the AAA within 10 days from the date of receipt.
 - .10 Except as provided herein, the arbitration shall be conducted and enforced under California law, including the California Arbitration Act (California Code of Civil Procedure section 1280 and following). The Federal Arbitration Act shall not apply to the arbitration.

4.7.6 Unless University and Contractor otherwise agree in writing, the arbitration decision shall be binding upon the parties, made under and in accordance with the laws of the State of California, supported by substantial evidence, and in writing. If the total of all Claims or cross Claims submitted to arbitration is in excess of \$50,000, the award shall contain the basis for the decision, findings of fact, and conclusions of law. Any arbitration award shall be subject to confirmation, vacation, or correction under the procedures and on the grounds specified in the California Code of Civil Procedure including without limitation Section 1296. The expenses and fees of the arbitrators and the administrative fees of the AAA shall be divided among the parties equally. Each party shall pay its own counsel fees, witness fees, and other expenses incurred for its own benefit.

4.7.7 University may, but is not required, to assert as a counterclaim any matter arising out of the claims asserted by Contractor in the arbitration. University's failure to assert any such counterclaim in an arbitration shall be without prejudice to the University's right to assert the counterclaim in litigation or other proceeding.

4.7.8 Any litigation shall be filed in the Superior Court of the State of California for the County in which the contract was to be performed.

4.8 WAIVER

4.8.1 A waiver of or failure by University or University's Representative to enforce any requirement in this Article 4 in connection with any Claim shall not constitute a waiver of, and shall not preclude University or University's Representative from enforcing such requirements in connection with any other Claims.

4.8.2 Contractor agrees and understands that no oral approval, either express or implied, of any Claim shall be binding upon University unless and until such approval is ratified by execution of a written Change Order.

ARTICLE 5 **SUBCONTRACTORS**

5.1 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.1.1 Unless otherwise stated in the Contract Documents, Contractor shall submit in writing, prior to entering into subcontract agreements, the names and addresses of all Subcontractors proposed for the Work that were not previously listed in Contractor's Bid.

5.1.2 Any Subcontractor may be disqualified if University or University's Representative determines that such Subcontractor fails to meet the requirements of the Contract Documents or for any other reason.

5.1.3 In accordance with the Subletting and Subcontracting Fair Practices Act, nothing herein shall be deemed to entitle Contractor, without the approval of University, to substitute other subcontractors for those named in Contractor's List of Subcontractors and List of Changes in Subcontractors Due to Alternates contained in the completed Bid Form; and, except with such approval, no such substitution shall be made.

5.1.4 Except as hereinafter provided, any increase in the cost of the Work resulting from the replacement or substitution of a Subcontractor, as required by University or University's Representative pursuant to Article 5.1.1 shall be borne solely by Contractor and Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time on account of such replacement or substitution.

5.2 SUBCONTRACTUAL RELATIONS

5.2.1 Any part of the Work performed for Contractor by a first-tier Subcontractor shall be pursuant to a written subcontract. Each such subcontract shall require the Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to Contractor by the terms of the Contract Documents, to assume toward Contractor all the obligations and responsibilities which Contractor assumes towards University by the Contract Documents, and to perform such portion of the Work in accordance with the Contract Documents. Each such subcontract shall preserve and protect the rights of University under the Contract Documents, with respect to the Work to be performed by Subcontractor, so that subcontracting thereof will not prejudice such rights. Contractor shall cause each such subcontract to expressly include the following requirements:

- .1 Subcontractor waives all rights that Subcontractor may have against University for damages caused by fire or other perils covered by builder's risk property insurance carried by Contractor or University, except for such rights Subcontractor may have to the proceeds of such insurance held by University under Article 11.
- .2 University and entities and agencies designated by University will have access to and the right to audit and the right to copy at University's cost all of Subcontractor's books, records, contracts, correspondence, instructions, drawings, receipts, vouchers, purchase orders, and memoranda relating to the Work. Subcontractor shall preserve all such records and other items for a period of at least 3 years after Final Completion.
- .3 Subcontractor recognizes the rights of University under Article 5.3, Contingent Assignment of Subcontracts, and agrees, upon notice from University that University has elected to accept said assignment and to retain Subcontractor pursuant to the terms of the subcontract, to complete the unperformed obligations under the subcontract and, if requested by University, to execute a written agreement confirming that Subcontractor is bound to University under the terms of the subcontract.

5.2.2 Upon the request of University, Contractor shall promptly furnish to University a true, complete, and executed copy of any subcontract.

5.2.3 Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and University, except when, and only to the extent that, University elects to accept the assignment of the subcontract with such Subcontractor pursuant to Article 5.3, Contingent Assignment of Subcontracts.

5.3 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.3.1 Contractor hereby assigns to University all its interest in first-tier subcontracts now or hereafter entered into by Contractor for performance of any part of the Work. The assignment will be effective upon acceptance by University in writing and only as to those subcontracts which University designates in writing. University may accept said assignment at any time during the course of the Work and prior to Final Completion in the event of a suspension or termination of Contractor's rights under the Contract Documents. Such assignment is part of the consideration to University for entering into the Contract with Contractor and may not be withdrawn prior to Final Completion.

ARTICLE 6 **CONSTRUCTION BY UNIVERSITY OR BY SEPARATE CONTRACTORS**

6.1 UNIVERSITY'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 University reserves the right to award separate contracts for, or to perform with its own forces, construction or operations related to the Work or other construction or operations at or affecting the Project site, including portions of the Work which have been deleted by Change Order. Contractor shall cooperate with University's forces and Separate Contractors.

6.1.2 University will provide coordination of the activities of University's forces and of each Separate Contractor with the Work of Contractor. Contractor shall participate with University and Separate Contractors in joint review of construction schedules and Project requirements when directed to do so. Contractor shall make necessary revisions to the Contract Schedule after such joint review.

6.2 MUTUAL RESPONSIBILITY

6.2.1 Contractor shall afford University and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities. Contractor shall connect, schedule, and coordinate its construction and operations with the construction and operations of University and Separate Contractors as required by the Contract Documents.

6.2.2 If a portion of the Work is dependent upon the proper execution or results of other construction or operations by University or Separate Contractors, Contractor shall inspect such other construction or operations before proceeding with that portion of the Work. Contractor shall promptly report to University's Representative apparent discrepancies or defects which render the other construction or operations unsuitable to receive the Work. Unless otherwise directed by University's Representative, Contractor shall not proceed with the portion of the Work affected until apparent discrepancies or defects have been corrected. Failure of Contractor to so report within a reasonable time after discovering such discrepancies or defects shall constitute an acknowledgment that the other construction or operations by University or Separate Contractors is suitable to receive the Work, except as to defects not then reasonably discoverable.

6.3 UNIVERSITY'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises between Contractor and Separate Contractors as to the responsibility under their respective contracts for maintaining the Project site and surrounding areas free from waste materials and rubbish, University may clean up and allocate the cost between those firms it deems to be responsible.

ARTICLE 7 **CHANGES IN THE WORK**

7.1 CHANGES

7.1.1 University may, from time to time, order or authorize additions, deletions, and other changes in the Work by Change Order or Field Order without invalidating the Contract and without notice to sureties. Absence of such notice shall not relieve such sureties of any of their obligations to University.

7.1.2 Contractor may request a Change Order under the procedures specified in Article 4.2.

7.1.3 A Field Order may be issued by University, does not require the agreement of Contractor, and shall be valid with or without the signature of Contractor.

7.1.4 Contractor shall proceed promptly with any changes in the Work, unless otherwise provided in the relevant Change Order or Field Order.

7.2 DEFINITIONS

7.2.1 A Change Order is a Contract Document (as shown in the Exhibits) which has been signed by both University and Contractor, and states their agreement, as applicable, to the following:

- .1 A change in the Work, if any.
- .2 The amount of an adjustment of the Contract Sum, if any.
- .3 The amount of an adjustment of the Contract Time, if any.
- .4 A modification to any other Contract term or condition.

7.2.2 A Unilateral Change Order may be issued by University, without Contractor's signature, where University determines that a change in the Work requires an adjustment of the Contract Sum or Contract Time, even though no agreement has been reached between University and Contractor with regard to such change in the Work.

7.2.3 A Field Order (as shown in the Exhibits) is a Contract Document issued by University that orders Contractor to perform Work. A Field Order may, but need not, constitute a change in the Work and may, but need not, entitle Contractor to an adjustment of the Contract Sum or Contract Time.

7.3 CHANGE ORDER PROCEDURES

7.3.1 Contractor shall provide a Change Order Request and Cost Proposal pursuant to Article 4.2 and this Article 7.3 of the General Conditions. Adjustments of the Contract Sum resulting from Extra Work and Deductive Work shall be determined using one of the methods described in this Article 7.3. Adjustments of the Contract Time shall be subject to the provisions in Article 8. Contractor's obligation to provide Cost Proposals shall be subject to the following:

- .1 The obligation of Contractor to provide Cost Proposals is not Extra Work, and shall not entitle Contractor to an adjustment of the Contract Sum or Contract Time.
- .2 The failure of Contractor to timely provide a Cost Proposal pursuant to Article 4.2 and this Article 7.3.1 is a material breach of the Contract. Contractor shall be responsible for any delay in implementing a change for which Contractor failed to timely provide a Cost Proposal consistent with the requirements of Article 4.2 and this Article 7.3.1.

7.3.2 The term "Cost of Extra Work" as used in this Article 7.3 shall mean actual costs incurred or to be incurred by Contractor and each Subcontractor regardless of tier involved, to the extent not otherwise disallowed under Article 7.3.3, and shall be limited to the following (to the extent Contractor demonstrates that the costs are both reasonable and actually incurred, if such costs have been incurred):

- .1 Straight-time wages or salaries for employees employed at the Project site, or at fabrication sites off the Project site, incurred as a result of the performance of the Extra Work.
- .2 Fringe Benefits and Payroll Taxes for employees employed at the Project site, or at fabrication sites off the Project site, incurred as a result of the performance of the Extra Work.
- .3 Overtime wages or salaries, specifically authorized in writing by University's Representative, for employees employed at the Project site, or at fabrication sites off the Project site, incurred as a result of the performance of the Extra Work.
- .4 Fringe Benefits and Payroll Taxes for overtime Work specifically authorized in writing by University's Representative, for employees employed at the Project site, or at fabrication sites off the Project site, incurred as a result of the performance of the Extra Work.
- .5 Costs of materials and consumable items which are furnished and incorporated into the Extra Work, as approved by University's Representative. Such costs shall be charged at the lowest price available to Contractor but in no event shall such costs exceed competitive costs obtainable from other subcontractors, suppliers, manufacturers, and distributors in the area of the Project site. All discounts, rebates, and refunds and all returns from sale of surplus materials and consumable items shall accrue to University and Contractor shall make provisions so that they may be obtained.
- .6 Sales taxes on the costs of materials and consumable items which are incorporated into and used in the performance of the Extra Work pursuant to Article 7.3.2.5 above.
- .7 Rental charges for necessary machinery and equipment, whether owned or hired, as authorized in writing by University's Representative, exclusive of hand tools, used directly in the performance of the Extra Work. Such rental charges shall not exceed the current Equipment Rental Rates published by the California Department of Transportation for the area in which the work is performed. Such rental rates are found at <http://www.dot.ca.gov/hq/construc/equipmnt.html>. Contractor shall attach a copy of said schedule to the Cost Proposal. The charges for any machinery and equipment shall cease when the use thereof is no longer necessary for the Extra Work.
- .8 Additional costs of royalties and permits due to the performance of the Extra Work.
- .9 The cost for Insurance and Bonds shall not exceed 2% of items .1 through .8 above.

University and Contractor may agree upon rates to be charged for any of the items listed in this Article 7.3.2. Such agreed upon rates

shall be subject to audit pursuant to Article 15.7. Contractor shall promptly refund to University any amounts (including associated mark-ups) in excess of the actual costs of such items.

7.3.3 Cost of Extra Work shall not include any of the following:

- .1 Supervision.
- .2 Superintendent(s).
- .3 Assistant Superintendent(s).
- .4 Project Engineer(s).
- .5 Project Manager(s).
- .6 Scheduler(s).
- .7 Estimator(s).
- .8 Small tools (Replacement value does not exceed \$300).
- .9 Office expenses including staff, materials and supplies.
- .10 On-site or off-site trailer and storage rental and expenses.
- .11 Site fencing.
- .12 Utilities including gas, electric, sewer, water, telephone, facsimile, copier equipment.
- .13 Data processing personnel and equipment.
- .14 Federal, state, or local business income and franchise taxes.
- .15 Overhead and Profit.
- .16 Costs and expenses of any kind or item not specifically and expressly included in Article 7.3.2.

7.3.4 The term "Contractor Fee" shall mean the full amount of compensation, both direct and indirect (including without limitation all overhead and profit), to be paid to Contractor for its own Work and the Work of all Subcontractors, for all costs and expenses not included in the Cost of Extra Work, whether or not such costs and expenses are specifically referred to in Article 7.3.3. The Contractor Fee shall not be compounded.

7.3.4.1 For Work added by Change order, the Contractor Fee shall be computed as follows:

- .1 Fifteen percent (15%) of the cost of that portion of the Extra Work to be performed by the prime contractor with its own forces.
- .2 Fifteen percent (15%) of the cost of that portion of the Work to be performed by a Subcontractor with its own forces, plus 5% for the prime contractor. Total combined Contractor and Subcontractor fee shall not exceed 20%.
- .3 Fifteen percent (15%) of the cost of that portion of the Work to be performed by a sub-subcontractor with its own forces, or any lower tier of Subcontractor, plus 5% for the Subcontractor, plus 5% for the prime contractor. Total combined Contractor, Subcontractor and all sub-subcontractor fee shall not exceed 25%.

7.3.4.2 For Work deleted by Change Order, the Contractor Fee shall be computed as follows:

- .1 Five (5%) of the cost of that portion of the Deleted Work to be performed by the prime contractor with its own forces.
- .2 Five (5%) of the cost of that portion of the Work to be performed by a Subcontractor with its own forces, plus 5% for the prime contractor. Total combined Contractor and Subcontractor fee shall not exceed 10%.
- .3 Five (5%) of the cost of that portion of the Work to be performed by a sub-subcontractor with its own forces, or any lower tier of Subcontractor, plus 5% for the Subcontractor, plus 5% for the prime contractor. Total combined Contractor, Subcontractor and all sub-subcontractor fee shall not exceed 15%.

7.3.5 Compensation for Extra Work shall be computed on the basis of one or more of the following:

- .1 Where the Work involved is covered by Unit Prices contained in the Contract Documents, by application of the Unit Prices to the quantities of the items involved.
- .2 Where Unit Prices are not applicable, a mutually agreed upon lump sum supported by a Cost Proposal pursuant to 7.3.1.
- .3 Where Contractor and University cannot agree upon a lump sum, by Cost of Extra Work plus Contractor Fee applicable to such Extra Work.

7.3.6 As a condition to Contractor's right to an adjustment of the Contract Sum pursuant to Article 7.3.5.3, Contractor must keep daily detailed and accurate records itemizing each element of cost and shall provide substantiating records and documentation, including time cards and invoices. Such records and documentation shall be submitted to University's Representative on a daily basis.

7.3.7 For Work to be deleted by Change Order, the reduction of the Contract Sum shall be computed on the basis of one or more of the following:

- .1 Unit Prices stated in the Contract Documents.
- .2 Where Unit Prices are not applicable, a lump sum agreed upon by University and Contractor, based upon the actual costs which would have been incurred in performing the deleted portions of the Work as calculated in accordance with Articles 7.3.2 and 7.3.3, plus Contractor Fee as defined in 7.3.4.2 and supported by a Cost Proposal pursuant to Article 7.3.1.

7.3.8 If any one Change involves both Extra Work and Deleted Work in the same portion of the Work, a Contractor fee will not be

allowed if the deductive cost exceeds the additive cost. If the additive cost exceeds the deductive cost, a Contractor Fee will be allowed only on the difference between the two amounts.

7.3.9 The Contract Sum will be adjusted for a delay if, and only if, Contractor demonstrates that all of the following three conditions are met:

- .1 Condition Number One: The delay results in an extension of the Contract Time pursuant to Article 8.4.1.
- .2 Condition Number Two: The delay is caused solely by one or more of the following:
 - .1 An error or omission in the Contract Documents; or
 - .2 University's decision to change the scope of the Work, where such decision is not the result of any default or misconduct of Contractor; or
 - .3 University's decision to suspend the Work, where such decision is not the result of any default or misconduct of Contractor; or
 - .4 The failure of University (including University acting through its consultants, Design Professionals, Separate Contractors or University's Representative) to perform any Contract obligation where the failure to so perform is not the result of any default or misconduct of Contractor.
 - .5 A materially differing site condition pursuant to Article 3.17.
- .3 Condition Number Three: The delay is not concurrent with a delay caused by an event other than those listed in Article 7.3.9.2.

7.3.10 For each day of delay that meets all three conditions prescribed in Article 7.3.9 the Contract Sum will be adjusted by the daily rate included in the Agreement and specifically identified as the rate to be paid to Contractor for Compensable Delays. Pursuant to Article 9.7.4, said daily rate shall not apply to delays occurring after Substantial Completion.

7.3.11 Except as provided in Articles 7 and 8, Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.

7.3.12 If for any reason one or more of the conditions prescribed in Article 7.3.9 is held legally unenforceable, the remaining conditions must be met as a condition to obtaining an adjustment of the Contract Time under Article 7.3.10.

7.4 FIELD ORDERS

7.4.1 Field Orders issued by University Representative shall be subject to the following:

- .1 A Field Order may state that it does or does not constitute a change in the Work.
- .2 If the Field Order states that it does not constitute a change in the Work and Contractor asserts that the Field Order constitutes a change in the Work, in order to obtain an adjustment of the Contract Sum or Contract Time for the Work encompassed by the Field Order, Contractor must follow all procedures set forth in Article 4, starting with the requirement of submitting a timely Change Order Request within 7 days of Contractor's receipt of the Field Order; failure to strictly follow those procedures is a bar to any Claim for an adjustment of the Contract Sum or Contract Time arising from performance of the Work described in the Field Order.
- .3 If the Field Order states that it does constitute a change in the Work, the Work described in the Field Order shall be considered Extra Work and Contractor shall be entitled to an adjustment of the Contract Sum and Contract Time, calculated under and subject to Contractor's compliance with the procedures for verifying and substantiating costs and delays in Articles 7 and 8.
- .4 In addition, if the Field Order states that it does constitute a change in the Work, the Field Order may or may not contain University's estimate of adjustment of Contract Sum and/or Contract Time. If the Field Order contains an estimate of adjustment of Contract Sum or Contract Time, the Field Order is subject to the following:
 - .1 Contractor shall not exceed University's estimate of adjustment to Contract Sum or Contract Time without prior written notification to University's Representative.
 - .2 If Contractor asserts that the change in the Work encompassed by the Field Order may entitle Contractor to an adjustment of Contract Sum or Contract Time in excess of University's estimate, in order not to be bound by University's estimate Contractor must follow all procedures set forth in Article 4, starting with the requirement of submitting a timely Change Order Request within 7 days of Contractor's receipt of the Field Order; failure to strictly follow those procedures is a bar to any Claim for an adjustment of the Contract Sum or Contract Time, in excess of University's estimate, arising from performance of the Work described in the Field Order.

7.4.2 Upon receipt of a Field Order, Contractor shall promptly proceed to perform the Work as ordered in the Field Order notwithstanding any disagreement by Contractor concerning whether the Work is extra.

7.5 VARIATION IN QUANTITY OF UNIT PRICE WORK

7.5.1 University has the right to increase or decrease the quantity of any Unit price item for which an Estimated Quantity is stated in the Bid Form.

7.6 WAIVER

7.6.1 A waiver of or failure by University or University's Representative to enforce any requirement in this Article 7, including without limitation the requirements in Articles 7.3.6, 7.3.8, 7.3.9, 7.3.10, 7.3.11, or 7.3.12 in connection with any adjustment of the Contract Sum, will not constitute a waiver of, and will not preclude University or University's Representative from enforcing, such

requirements in connection with any other adjustments of the Contract Sum.

7.6.2 Contractor agrees and understands that no oral approval, either express or implied, of any adjustment of the Contract Sum by University or its agents shall be binding upon University unless and until such approval is ratified by execution of a written Change Order.

ARTICLE 8 **CONTRACT TIME**

8.1 COMMENCEMENT OF THE WORK

8.1.1 The date of commencement of the Work shall be set forth in the Notice to Proceed. The date of commencement of the Work shall not be postponed by the failure of Contractor, Subcontractors, or of persons or firms for whom Contractor is responsible, to act.

8.2 PROGRESS AND COMPLETION

8.2.1 By signing the Agreement:

- .1 Contractor represents to University that the Contract Time is reasonable for performing the Work and that Contractor is able to perform the Work within the Contract Time.
- .2 Contractor agrees that University is purchasing the right to have Contractor present on the Project site for the full duration of the Contract Time, even if Contractor could finish the Contract in less than the Contract Time.

8.2.2 Contractor shall not, except by agreement or instruction of University in writing, commence operations on the Project site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by Contractor. The dates of commencement and Final Completion of the Work shall not be changed by the effective date of such insurance.

8.2.3 Contractor shall proceed expeditiously with adequate forces and shall achieve full completion of the Work within the Contract Time. If University's Representative determines and notifies Contractor that Contractor's progress is such that Contractor will not achieve full completion of the Work within the Contract Time, Contractor shall immediately and at no additional cost to University, take all measures necessary, including working such overtime, additional shifts, Sundays, or holidays as may be required to ensure that the Work is fully completed within the Contract Time. Upon receipt of such notice from University's representative, Contractor shall immediately notify University's Representative of all measures to be taken to ensure full completion of the Work within the Contract Time. Contractor shall reimburse University for any extra costs or expenses (including the reasonable value of any services provided by University's employees) incurred by University as the result of such measures.

8.3 DELAY

8.3.1 Except and only to the extent provided otherwise in Articles 7 and 8, by signing the Agreement, Contractor agrees:

- .1 to bear the risk of delays to the Work; and
- .2 that Contractor's bid for the Contract was made with full knowledge of this risk.

In agreeing to bear the risk of delays to the Work, Contractor understands that, except and only to the extent provided otherwise in Articles 7 and 8, the occurrence of events that delay the Work shall not excuse Contractor from its obligation to achieve Final Completion of the Work within the Contract Time, and shall not entitle Contractor to an adjustment of the Contract Sum.

8.4 ADJUSTMENT OF THE CONTRACT TIME FOR DELAY

8.4.1 Subject to Article 8.4.2, the Contract Time will be extended for each day of delay for which Contractor demonstrates that all of the following four conditions have been met; a time extension will not be granted for any day of delay for which Contractor fails to demonstrate compliance with the four conditions:

- .1 Condition Number One: The delay is critical. A delay is critical if and only to the extent it delays a work activity that cannot be delayed without delaying Final Completion of the Work beyond the Contract Time. Under this Article 8.4.1.2, if the Contract Schedule shows Final Completion of the Work before expiration of the Contract Time, a delay is critical if and only to the extent the delay pushes Final Completion of the Work to a date that is beyond the Contract Time.
- .2 Condition Number Two: Within 7 days of the date Contractor discovers or reasonably should discover an act, error, omission or unforeseen condition or event causing the delay, is likely to have an impact on the critical path of the Project (even if Contractor has not yet been delayed when Contractor discovers or reasonably should discover the critical path impact of the act, error, omission or unforeseen condition giving rise to the delay) Contractor submits both a timely and complete Change Order Request that meets the requirements of Article 4.2.
- .3 Condition Number Three: The delay is not caused by:
 - .1 A concealed, unforeseen or unknown condition or event except for a materially differing site condition pursuant to Article 3.17; or
 - .2 The financial inability, misconduct or default of Contractor, a Subcontractor or supplier; or
 - .3 The unavailability of materials or parts.
- .4 Condition Number Four: The delay is caused by:
 - .1 Fire; or
 - .2 Strikes, boycotts, or like obstructive actions by labor organizations; or
 - .3 Acts of God (As used herein, "Acts of God" shall include only earthquakes in

- excess of a magnitude of 3.5 on the Richter Scale and tidal waves); or
- .4 A materially differing site condition pursuant to Article 3.17; or
- .5 An error or omission in the Contract; or
- .6 University's decision to change the scope of the Work, where such decision is not the result of any default or misconduct of Contractor; or
- .7 University's decision to suspend the Work, where such decision is not the result of any default or misconduct of Contractor; or
- .8 The failure of University (including University acting through its consultants, Design Professionals, Separate Contractors or University's Representative) to perform any Contract obligation unless such failure is due to Contractor's default or misconduct; or
- .9 "Adverse weather," but only for such days of adverse weather, or on-site conditions caused by adverse weather, that are in excess of the number of days specified in the Supplementary Conditions. In order for a day to be considered a day of adverse weather for the purpose of determining whether Contractor is entitled to an adjustment in Contract Time, both of the following conditions must be met:
 - .1 the day must be a day in which, as a result of adverse weather, less than one half day of critical path work is performed by Contractor; and
 - .2 the day must be identified in the Contract Schedule as a scheduled work day.

8.4.2 If and only if a delay meets all four conditions prescribed in Article 8.4.1, then a time extension will be granted for each day that Final Completion of the Work is delayed beyond the Contract Time, subject to the following:

- .1 When two or more delays (each of which meet all four conditions prescribed in Article 8.4.1) occur concurrently on the same day, and each such concurrent delay by itself without consideration of the other delays would be critical, then all such concurrent delays shall be considered critical. For the purpose of determining whether and to what extent the Contract Time should be adjusted pursuant to Article 8.4.2, such concurrent critical delays shall be treated as a single delay for each such day.
- .2 Contractor shall be entitled to a time extension for a day of delay that meets all four requirements of Article 8.4.1 if the delay is concurrent with a delay that does not meet all four conditions of Article 8.4.1.

8.4.3 If for any reason one or more of the four conditions prescribed in Article 8.4.1 is held legally unenforceable, then all remaining conditions must be met as a condition to obtaining an extension of the Contract Time under Article 8.4.2.

8.5 COMPENSATION FOR DELAY

8.5.1 To the maximum extent allowed by law, any adjustment of the Contract Sum as the result of delays shall be limited to the amounts specified in Article 7. Such adjustment shall, to the maximum extent allowed by law, constitute payment in full for all delay related costs (including costs for disruption, interruption and hindrance, general conditions, on and off-site overhead and profit) of Contractor, its Suppliers and Subcontractors of all tiers and all persons and entities working under or claiming through Contractor in connection with the Project.

8.5.2 By signing the Agreement, the parties agree that University is buying the right to do any or all of the following, which are reasonable and within the contemplation of the parties:

- .1 To order changes in the Work, regardless of the extent and number of changes, including without limitation:
 - .1 Changes to correct errors or omissions, if any, in the Contract Documents.
 - .2 Changes resulting from University's decision to change the scope of the Work subsequent to execution of the Contract.
 - .3 Changes due to unforeseen conditions.
- .2 To suspend the Work or any part thereof.
- .3 To delay the Work, including without limitation, delays resulting from the failure of University or University's Representative to timely perform any Contract obligation and delays for University's convenience.

8.6 WAIVER

8.6.1 A waiver of or failure by University or University's Representative to enforce any requirement in this Article 8, including without limitation the requirements in Article 8.4, in connection with any or all past delays shall not constitute a waiver of, and shall not preclude University or University's Representative from enforcing, such requirements in connection with any present or future delays.

8.6.2 Contractor agrees and understands that no oral approval, either express or implied, of any time extension by University or its agents shall be binding upon University unless and until such approval is ratified by execution of a written Change Order.

See Supplementary Conditions

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 COST BREAKDOWN

9.1.1 Within 10 days after receipt of the Notice of Selection as the apparent lowest responsible Bidder, and with the Agreement, Contractor shall submit to University's Representative a Cost Breakdown of the Contract Sum in the form contained in the Exhibits. The Cost Breakdown shall itemize as separate line items the cost of each Work Activity and all associated costs, including but not limited to warranties, as-built documents, overhead expenses, and the total allowance for profit. Insurance and bonds shall each be listed as separate line items. The total of all line items shall equal the Contract Sum. The Cost Breakdown, when approved by University's Representative, shall become the basis for determining the cost of Work performed for Contractor's Applications for Payment.

9.2 PROGRESS PAYMENT

9.2.1 University agrees to pay monthly to Contractor, subject to Article 9.4.3, an amount equal to 95% of the sum of the following:

- .1 Cost of the Work in permanent place as of the date of Contractor's Application for Payment.
- .2 Plus cost of materials not yet incorporated in the Work, subject to Article 9.3.5.
- .3 Less amounts previously paid.

Under this Article 9.2.1, University may but is not required, to pay Contractor more frequently than monthly.

9.2.2 After Substantial Completion and subject to Article 9.4.3, University will make any of the remaining progress payments in full.

9.3 APPLICATION FOR PAYMENT

9.3.1 On or before the 10th day of the month or such other date as is established by the Contract Documents, Contractor shall submit to University's Representative an itemized Application for Payment, for the cost of the Work in permanent place, as approved by University's Representative, which has been completed in accordance with the Contract Documents, less amounts previously paid.

The Application for Payment shall be prepared as follows:

- .1 Use the form contained in the Exhibits.
- .2 Itemize in accordance with the Cost Breakdown.
- .3 Include such data substantiating Contractor's right to payment as University's Representative may reasonably require, such as invoices, certified payrolls, daily time and material records, and, if securities are deposited in lieu of retention pursuant to Article 9.5, a certification of the market value of all such securities as of a date not earlier than 5 days prior to the date of the Application for Payment.
- .4 Itemize retention.

9.3.2 Applications for Payment shall not include requests for payment on account of (1) changes which have not been authorized by Change Orders or (2) amounts Contractor does not intend to pay a Subcontractor because of a dispute or other reason.

9.3.3 If required by University, an Application for Payment shall be accompanied by (1) a summary showing payments that will be made to Subcontractors covered by such application and conditional releases upon progress payment or final payment and (2) unconditional waivers and releases of claims and stop payment notices, in the form contained in the Exhibits, from each Subcontractor listed in the preceding Application for Payment covering sums disbursed pursuant to that preceding Application for Payment.

9.3.4 Contractor warrants that, upon submittal of an Application for Payment, all Work, for which Certificates for Payment have been previously issued and payment has been received from University, shall be free and clear of all claims, stop payment notices, security interests, and encumbrances in favor of Contractor, Subcontractors, or other persons or firms entitled to make claims by reason of having provided labor, materials, or equipment relating to the Work.

9.3.5 At the sole discretion of University, University's Representative may approve for inclusion in the Application for Payment the cost of materials not yet incorporated in the Work but already delivered and suitably stored either at the Project site or at some other appropriate location acceptable to University's Representative. In such case, Contractor shall furnish evidence satisfactory to University's Representative (1) of the cost of such materials and (2) that such materials are under the exclusive control of Contractor. Only materials to be incorporated in the Work will be considered for payment. Any payment shall not be construed as acceptance of such materials nor relieve Contractor from sole responsibility for the care and protection of such materials; nor relieve Contractor from risk of loss to such materials from any cause whatsoever; nor relieve Contractor from its obligation to complete the Work in accordance with the Contract; nor act as a waiver of the right of University to require fulfillment of all terms of the Contract. Nothing contained within this Article 9.3.5 shall be deemed to obligate University to agree to payment for any non-incorporated materials or any part thereof, payment being in the sole and absolute discretion of University.

9.4 CERTIFICATE FOR PAYMENT

9.4.1 If Contractor has submitted an Application for Payment in accordance with Article 9.3, University's Representative shall, not later than 5 working days after the date of receipt of the Application for Payment, issue to University, with a copy to Contractor, a Certificate for Payment for such amount as University's Representative determines to be properly due.

9.4.2 If any such Application for Payment is determined not to be in accordance with Article 9.3, University will inform Contractor as soon as practicable, but not later than 5 working days after receipt. Thereafter, Contractor shall have 3 days to revise and resubmit such Application for Payment; otherwise University's Representative may issue a Certificate for Payment in the amount that University's Representative determines to be properly due without regard to such Application for Payment.

9.4.3 Approval of all or any part of an Application for Payment may be withheld, a Certificate for Payment may be withheld, and all or part of a previous Certificate for Payment may be nullified and that amount withheld from a current Certificate for Payment on

account of any of the following:

- .1 Defective Work not remedied.
- .2 Third-party claims against Contractor or University arising from the acts or omissions of Contractor or Subcontractors.
- .3 Stop payment notices.
- .4 Failure of Contractor to make timely payments due Subcontractors for material or labor.
- .5 A reasonable doubt that the Work can be completed for the balance of the Contract Sum then unpaid.
- .6 Damage to University or Separate Contractor for which Contractor is responsible.
- .7 Reasonable evidence that the Work will not be completed within the Contract Time; and that the unpaid balance of the Contract Sum would not be adequate to cover University's damages for the anticipated delay.
- .8 Failure of Contractor to maintain and update as-built documents.
- .9 Failure of Contractor to submit schedules or their updates as required by the Contract Documents.
- .10 Failure to provide conditional or unconditional releases from any Subcontractor or supplier, if such waiver(s) have been requested by University's Representative.
- .11 Performance of Work by Contractor without properly processed Shop Drawings.
- .12 Liquidated damages assessed in accordance with Article 5 of the Agreement.
- .13 Failure to provide updated Reports of Subcontractor Information and Confirmation of Certifications, as applicable.
- .14 Failure to provide a Final Distribution of Contract Dollars with final Application for Payment.
- .15 Any other failure of Contractor to perform its obligations under the Contract Documents.

9.4.4 Subject to the withholding provisions of Article 9.4.3, University will pay Contractor the amount set forth in the Certificate for Payment no later than 10 days after the issuance of the Certificate for Payment.

9.4.5 Neither University nor University's Representative will have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

9.4.6 Neither a Certificate for Payment nor a progress payment made by University will constitute acceptance of Defective Work.

9.5 DEPOSIT OF SECURITIES IN LIEU OF RETENTION AND DEPOSIT OF RETENTION INTO ESCROW

9.5.1 At the request and expense of Contractor, a substitution of securities may be made for any monies retained by University under Article 9.2 to ensure performance under the Contract Documents. Securities equivalent in value to the retention amount required by the Contract Documents for each Certificate for Payment shall be deposited by Contractor with a state or federally chartered bank in the State of California ("Escrow Agent"), which shall hold such securities pursuant to the escrow agreement referred to in Article 9.5.3 until retention is due in accordance with Article 9.8. Securities shall be valued as often as conditions of the securities market warrant, but in no case less than once per month. Contractor shall deposit additional securities so that the current market value of the total of all deposited securities shall be at least equal to the total required amount of retention.

9.5.2 Alternatively to Article 9.5.1, and at the request and expense of Contractor, University will deposit retention directly with Escrow Agent. Contractor may direct the investment of such deposited retention into interest bearing accounts or securities, and such deposits or securities shall be held by Escrow Agent upon the same terms provided for securities deposited by Contractor. Contractor and its surety shall bear the risk of failure of the Escrow Agent selected.

9.5.3 A prerequisite to the substitution of securities in lieu of retention or the deposit of retention into escrow shall be the execution by Contractor, University, and Escrow Agent of an Escrow Agreement for Deposit of Securities in Lieu of Retention and Deposit of Retention in the form contained in the Exhibits. Contractor shall submit the Selection of Retention Options and the Escrow Agreement for Deposit of Securities in Lieu of Retention and Deposit of Retention not later than the date when 50% of the Work has been completed. The terms of such escrow agreement are incorporated into the requirements of this Article 9.5.

9.6 BENEFICIAL OCCUPANCY

9.6.1 University reserves the right, at its option and convenience, to occupy or otherwise make use of any part of the Work at any time prior to Substantial Completion or Final Completion upon 10 days' notice to Contractor. Such occupancy or use is herein referred to as "Beneficial Occupancy." Beneficial Occupancy shall be subject to the following conditions:

- .1 University's Representative will make an inspection of the portion of the Project to be beneficially occupied and prepare a list of items to be completed or corrected prior to Final Completion. Prior to Beneficial Occupancy, University will issue a Certificate of Beneficial Occupancy on University's form.
- .2 Beneficial Occupancy by University shall not be construed by Contractor as an acceptance by University of that portion of the Work which is to be occupied.
- .3 Beneficial Occupancy by University shall not constitute a waiver of existing claims of University or Contractor against each other.
- .4 Contractor shall provide, in the areas beneficially occupied and on a 24 hour and 7 day week basis as required, utility services, heating, and cooling for systems which are in operable condition at the time of Beneficial Occupancy. All responsibility for the operation and maintenance of equipment shall remain with Contractor while the equipment is so operated. Contractor shall submit to University an itemized list of each piece of equipment so operated with the date operation commences.
- .5 The Guarantee to Repair Periods, as defined in Article 12.2, will commence upon the occupancy date stated in the Certificate of Beneficial Occupancy except that the Guarantee to Repair Periods for that part of equipment or systems that serve portions of the Work for which University has not taken Beneficial Occupancy or issued a Certificate of Substantial Completion shall not commence until

- University has taken Beneficial Occupancy for that portion of the Work or has issued a Certificate of Substantial Completion with respect to the entire Project.
- .6 University will pay all normal operating and maintenance costs resulting from its use of equipment in areas beneficially occupied.
 - .7 University will pay all utility costs which arise out of the Beneficial Occupancy.
 - .8 Contractor shall not be responsible for providing security in areas beneficially occupied.
 - .9 University will use its best efforts to prevent its Beneficial Occupancy from interfering with the conduct of Contractor's remaining Work.
 - .10 Contractor shall not be required to repair damage caused by University in its Beneficial Occupancy.
 - .11 Except as provided in this Article 9.6, there shall be no added cost to University due to Beneficial Occupancy.
 - .12 Contractor shall continue to maintain all insurance required by the Contract in full force and effect.

9.7 SUBSTANTIAL COMPLETION

9.7.1 "Substantial Completion" means the stage in the progress of the Work, as determined by University's Representative, when the Work is complete and in accordance with the Contract Documents except only for completion of minor items which do not impair University's ability to occupy and fully utilize the Work for its intended purpose and a Certificate of Occupancy has been issued by University.

9.7.2 When Contractor gives notice to University's Representative that the Work is substantially complete, unless University's Representative determines that the Work is not sufficiently complete to warrant an inspection to determine Substantial Completion, University's Representative will inspect the Work. If University's Representative determines that the Work is not substantially completed, University's Representative will prepare and give to Contractor a comprehensive list of items to be completed or corrected before establishing Substantial Completion. Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of Contractor to complete all Work in accordance with the Contract Documents. Upon notification that the items on the list are completed or corrected, as applicable, University's Representative will make an inspection to determine whether the Work is substantially complete. Costs for additional inspection by University's Representative shall be deducted from any monies due and payable to Contractor.

9.7.3 When University's Representative determines that the Work is substantially complete, University's Representative will arrange for inspection by University's Building Official and other officials, as appropriate, for the purpose of issuing a Certificate of Occupancy. After a Certificate of Occupancy has been issued by University, University's Representative will prepare a Certificate of Substantial Completion on University's form as contained in the Exhibits, which, when signed by University, shall establish the date of Substantial Completion and the responsibilities of University and Contractor for security, maintenance, utilities, insurance, and damage to the Work. University's Representative will prepare and furnish to Contractor a comprehensive "punch list" of items to be completed or corrected prior to Final Completion.

9.7.4 Unless otherwise provided in the Certificate of Substantial Completion, the Guarantee to Repair Period for the Work covered by the Certificate of Substantial Completion, shall commence on the date of Substantial Completion of the Work except that Substantial Completion shall not commence the Guarantee to Repair Period for any equipment or systems that:

- .1 Are not operational (equipment or systems shall not be considered operational if they cannot be used to provide the intended service); or
- .2 Are not accepted by University.

The Guarantee to Repair Period for equipment or systems which become operational and accepted subsequent to Substantial Completion will begin on the date of their written acceptance by University.

9.7.5 The daily rate included in the Agreement and specifically identified as the rate to be paid to Contractor for Compensable Delays shall not apply to any delays occurring after the Work is substantially completed.

9.8 FINAL COMPLETION, FINAL PAYMENT, AND RELEASE OF RETENTION

9.8.1 Upon receipt of notice from Contractor that the Work is ready for final inspection, University's Representative will make such inspection. Final Completion shall be when University's Representative determines that the Work is fully completed and in accordance with the Contract Documents, including without limitation, satisfaction of all "punch list" items, and determines that a Certificate of Occupancy has been issued by the University. University will file a Notice of Completion within 15 days after Final Completion. After receipt of the final Application for Payment, if University's Representative determines that Final Completion has occurred, University's Representative will issue the final Certificate for Payment.

9.8.2 Final payment and retention shall be released to Contractor, as set forth in Article 9.8.3, after:

- .1 Contractor submits the final Application for Payment and all submittals required in accordance with Article 9.3;
- .2 Contractor submits all guarantees and warranties procured by Contractor from Subcontractors, all operating manuals for equipment installed in the Project, as-built documents, and all other submittals required by the Contract Documents;
- .3 Contractor submits the Final Distribution of Contract Dollars in the form contained in the Exhibits; and
- .4 University's Representative issues the final Certificate for Payment.

At its sole discretion, after Final Completion, University may waive the requirement that Contractor submit a final Application for Payment before making final payment and/or release of retention to Contractor.

9.8.3 Final payment shall be paid not more than 10 days after University's Representative issues the final Certificate for Payment. Retention shall be released to Contractor 35 days after the filing of the Notice of Completion.

9.8.4 Acceptance of final payment by Contractor shall constitute a waiver of all claims, except claims for retention and claims previously made in writing and identified by Contractor as unsettled at the time of the final Application for Payment.

ARTICLE 10
PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 Contractor shall take adequate precautions for safety of and shall provide adequate protection to prevent damage, injury, or loss to the following:

- .1 Employees involved in the Work and other persons who may be affected thereby.
- .2 The Work in place and materials and equipment to be incorporated therein, whether in storage on or off the Project site, under care, custody, or control of Contractor or Subcontractors.
- .3 Other property at the Project site and adjoining property.

10.2.2 Contractor shall erect and maintain, as required by existing conditions and performance of the Work, adequate safeguards for safety and protection, including providing adequate lighting and ventilation, posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.

10.2.3 When use or storage of explosives, other hazardous materials, equipment, or unusual methods are necessary for execution of the Work, Contractor shall exercise the utmost care and carry on such activities only under the supervision of properly qualified personnel.

10.2.4 Contractor shall designate a responsible member of Contractor's organization at the Project site whose duty shall be the prevention of accidents. That person shall be the Superintendent, unless otherwise designated by Contractor in writing to University and University's Representative.

10.2.5 Contractor shall not load or permit any part of the Work or the Project site to be loaded so as to endanger the safety of persons or property.

10.3 EMERGENCIES

10.3.1 In an emergency affecting the safety of persons or property, Contractor shall act to prevent or minimize damage, injury, or loss. Contractor shall promptly notify University's Representative, which notice may be oral followed by written confirmation, of the occurrence of such an emergency and Contractor's action.

ARTICLE 11
INSURANCE AND BONDS

11.1 CONTRACTOR'S INSURANCE

11.1.1 Contractor shall, at its expense, purchase and maintain in full force and effect such insurance as will protect itself and University from claims, such as for bodily injury, wrongful death, and property damage, which may arise out of or result from the Work required by the Contract Documents, whether such Work is done by Contractor, by any Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. The amounts of such insurance and any additional insurance requirements are specified in the Supplementary Conditions. See Article 3.21 regarding the scope and extent of Contractor's liability for and repair of damaged Work.

11.1.2 The following policies and coverages shall be furnished by Contractor:

- .1 COMMERCIAL GENERAL LIABILITY INSURANCE subject to terms no less broad than the Insurance Services Office's (ISO) form CG 0001 (2004 or later edition), or a substitute form providing coverage at least as broad as the ISO form specified, covering all Work done by or on behalf of Contractor and providing insurance for bodily injury, wrongful death, personal injury, property damage, and contractual liability. There shall be no limitations or exclusions of coverage beyond those contained in the standard ISO form CG 0001 (2004 or later edition). Except with respect to bodily injury and property damage included within the products and completed operations hazards, the aggregate limit shall apply separately to Work required of Contractor by these Contract Documents. Contractor shall continue to maintain Products/Completed Operations liability insurance coverage for a minimum completed operations period of 10 year(s) or the applicable Statute of Repose as provided by the law of the jurisdiction where the project is located as shown in the policy(ies), whichever is less. All terms and conditions of such coverage shall be maintained during this completed operations period, including the required minimum coverage limits and the requirement to provide the University with coverage as an additional insured for completed operations as specified under this Article 11.1 and the Supplementary Conditions.
- .2 BUSINESS AUTOMOBILE LIABILITY INSURANCE subject to terms no less broad than the Insurance Services Office's (ISO) form CA 0001 (1990 or later edition), or a substitute form providing coverage at least as broad as the ISO form specified, covering owned, hired, leased, and non-owned automobiles

used by or on behalf of Insured, and providing liability insurance for bodily injury and property damage arising from the use or operation of such auto(s) with a minimum combined single limit of not less than \$1,000,000 per accident. The minimum limits required may be satisfied by combination of primary and umbrella/excess policies. The Commercial Automobile Liability Insurance shall be provided by Contractor for all on site and off site Work.

- .3 WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE as required by Federal and State of California law. Contractor shall also require all of its Subcontractors to maintain this insurance coverage.

See Supplementary Conditions

11.1.3 The coverages required under this Article 11 shall not in any way limit the liability of Contractor.

11.1.4 Contractor's Certificates of Insurance, executed by a duly authorized representative of each broker of record or each insurer as evidence of the insurance required by these Contract Documents and on the form contained in the Exhibits, shall be submitted by Contractor to University prior to the commencement of Work by the Contractor. The Certificates of Insurance shall provide for no cancellation or modification of coverage without prior written notice to University, in accordance with policy provisions.

11.1.5 In the event Contractor does not comply with these insurance requirements, University may, at its option, provide insurance coverage to protect University; and the cost of such insurance shall be paid by Contractor and may be deducted from the Contract Sum.

11.1.6 Contractor's insurance as required by Article 11.1.2, shall, by endorsement to the policies, include the following:

- .1 The Regents of the University of California, The University of California, University, and each of their Representatives, consultants, officers, agents, employees, and each of their Representative's consultants, regardless of whether or not identified in the Contract Documents or to the Contractor in writing, will be included as additional insureds on the Contractor's General Liability insurance for and relating to the Work to be performed by the Contractor and Subcontractors. Additional Insured provision or endorsement shall be at least as broad as the CG 20 07 04 in combination with the CG 20 37 07 04 (or earlier versions of CG 20 10 and CG 20 37 or Form B - CG 20 10 11 85 by itself), as published by Insurance Services Offices (ISO) and shall be included with Certificates of Insurance. The additional insured requirement shall not apply to Worker's Compensation and Employer's Liability insurance.

Further, the amount of insurance available to the University shall be for the full amount of the loss up to the available policy limits and shall not be limited to any minimum requirements stated in the Contract Documents.

- .2 University, University's consultants, University's Representative, and University's Representative's consultants will not be reason of their inclusion as insureds incur liability to the insurance carriers for payment of premiums for such insurance.
- .3 Coverage provided is primary and is not in excess of or contributing with any insurance or self-insurance maintained by University, University's consultants, University's Representative, and University's Representative's consultants. This provision, however, shall only apply as per the stipulations of Article 11.1.6.1.

11.1.7 The form and substance of all insurance policies required to be obtained by Contractor shall be subject to approval by University. All policies required by Articles 11.1.2.1, 11.1.2.2, and 11.1.2.3 shall be issued by companies with ratings and financial classifications as specified in the Supplementary Conditions.

11.1.8 Contractor shall, by mutual agreement with University, furnish any additional insurance as may be required by University. Contractor shall provide Certificates of Insurance evidencing such additional insurance.

11.1.9 The Certificate of Insurance shall show (1) all companies affording coverage and (2) the name of the insured exactly in the manner as shown on the Bid Form. The name of the insured must be the name under which the entity is licensed by the Contractors State License Board.

11.1.10 If insurance company refuses to use the Certificate of Insurance form as contained in the Exhibits, it must provide a Certificate of Insurance evidencing compliance with this Article including those provisions noted under DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES section of the Certificate of Insurance Exhibit by including an endorsement to its Certificate of Insurance form covering those noted provisions exactly as they appear on the Certificate of Insurance Exhibit.

11.1.11 At the request of University, Contractor shall submit to University copies of the policies obtained by Contractor.

11.2 BUILDER'S RISK PROPERTY INSURANCE

11.2.1 If and only if the Contract Sum exceeds \$300,000 at the time of award, University will provide its standard builder's risk property insurance, subject to the deductibles, terms and conditions, exclusions, and limitations as contained in the provisions of the policy. A copy of University's standard builder's risk property insurance policy is available at University's Facility office. In addition, a summary of the provisions of the policy is included as an Exhibit to the Contract. Contractor agrees that University's provision of its standard builder's risk property insurance policy meets University's obligation to provide builder's risk property insurance under the Contract and, in the event of a conflict between the provisions of the policy and any summary or description of the provisions contained herein or otherwise, the provisions of the policy shall control and shall be conclusively presumed to fulfill University's obligation to provide such insurance. The proceeds under such insurance policies taken out by University insuring the Work and materials will be

payable to University and Contractor as their respective interests, from time to time, may appear. Contractor shall be responsible for the deductible amount in the event of a loss. In addition, nothing in this Article 11.2 shall be construed to relieve Contractor of full responsibility for loss of or damage to materials not incorporated in the Work, and for Contractor's tools and equipment used to perform the Work, whether on the Project site or elsewhere, or to relieve Contractor of its responsibilities referred to under this Article 11. Materials incorporated in the Work, as used in this Article 11.2, shall mean materials furnished while in transit to, stored at, or in permanent place at the Project site.

11.2.2 Insurance policies referred to under this Article 11.2 shall:

- .1 Include a provision that the policies are primary and do not participate with nor are excess over any other valid collectible insurance carried by Contractor.
- .2 Include a waiver of subrogation against Contractor, its Subcontractors, agents, and employees.

11.2.3 Builder's risk insurance coverage under this Article 11.2 will expire on the date of Final Completion recited in a Notice of Completion filed pursuant to Article 9.8.1. Should a Notice of Completion be filed more than 10 days after the date of Final Completion, the date of Final Completion recited in the Notice of Completion will govern.

11.3 PERFORMANCE BOND AND PAYMENT BOND

11.3.1 Contractor shall furnish bonds covering the faithful performance of the Contract (Performance Bond) and payment of obligations arising thereunder (Payment Bond) on the forms contained in Exhibits 3 and 2.

11.3.2 The Payment Bond and Performance Bond shall each be in the amount of the Contract Sum.

11.3.3 The Payment Bond and Performance Bond shall be in effect on the date the Contract is signed by University.

11.3.4 Contractor shall promptly furnish such additional security as may be required by University to protect its interests and those interests of persons or firms supplying labor or materials to the Work. Contractor shall furnish supplemental Payment and Performance Bonds each in the amount of the current Contract Sum at the request of University.

11.3.5 Surety companies used by Contractor shall be, on the date the Contract is signed by University, an admitted surety insurer (as defined in the California Code of Civil Procedure Section 995.120).

11.3.6 The premiums for the Payment Bond and Performance Bond shall be paid by Contractor.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

12.1.1 If a portion of the Work is covered contrary to University's Representative's request or direction, or contrary to the requirements of the Contract Documents, it must, if required in writing by University's Representative, be uncovered for University's Representative's observation and be replaced at Contractor's expense without adjustment of the Contract Time or the Contract Sum.

12.1.2 If a portion of the Work has been covered, which is not required by the Contract Documents to be observed or inspected prior to its being covered and which University's Representative has not specifically requested to observe prior to its being covered, University's Representative may request to see such Work and it shall be uncovered and replaced by Contractor. If such Work is in accordance with the Contract Documents, the costs of uncovering and replacing the Work shall be added to the Contract Sum by Change Order; and if the uncovering and replacing of the Work extends the Contract Time, an appropriate adjustment of the Contract Time shall be made by Change Order. If such Work is not in accordance with the Contract Documents, Contractor shall pay such costs and shall not be entitled to an adjustment of the Contract Time or the Contract Sum.

12.2 CORRECTION OF DEFECTIVE WORK AND GUARANTEE TO REPAIR PERIOD

12.2.1 The term "Guarantee to Repair Period" means a period of 1 year, unless a longer period of time is specified, commencing as follows:

- .1 For any Work not described as incomplete in the Certificate of Substantial Completion, on the date of Substantial Completion.
- .2 For space beneficially occupied or for separate systems fully utilized prior to Substantial Completion pursuant to Article 9.6, from the first date of such Beneficial Occupancy or actual use, as established in a Certificate of Beneficial Occupancy.
- .3 For all Work other than .1 or .2 above, from the date of Final Completion.

12.2.2 Contractor shall (1) correct Defective Work that becomes apparent during the progress of the Work or during the Guarantee to Repair Period and (2) replace, repair, or restore to University's satisfaction any other parts of the Work and any other real or personal property which is damaged or destroyed as a result of Defective Work or the correction of Defective Work. Contractor shall promptly commence such correction, replacement, repair, or restoration upon notice from University's Representative or University, but in no case later than 10 days after receipt of such notice; and Contractor shall diligently and continuously prosecute such correction to completion. Contractor shall bear all costs of such correction, replacement, repair, or restoration, and all losses resulting from such Defective Work, including additional testing, inspection, and compensation for University's Representative's services and expenses. Contractor shall perform corrective Work at such times that are acceptable to University and in such a manner as to avoid, to the extent practicable, disruption to University's activities.

12.2.3 If immediate correction of Defective Work is required for life safety or the protection of property and is performed by University or Separate Contractors, Contractor shall pay to University all reasonable costs of correcting such Defective Work.

Contractor shall replace, repair, or restore to University's satisfaction any other parts of the Work and any other real or personal property which is damaged or destroyed as a result of such Defective Work or the correction of such Defective Work.

12.2.4 Contractor shall remove from the Project site portions of the Work and materials which are not in accordance with the Contract Documents and which are neither corrected by Contractor nor accepted by University.

12.2.5 If Contractor fails to commence correction of Defective Work within 10 days after notice from University or University's Representative or fails to diligently prosecute such correction to completion, University may correct the Defective Work in accordance with Article 2.4; and, in addition, University may remove the Defective Work and store salvageable materials and equipment at Contractor's expense.

12.2.6 If Contractor fails to pay the costs of such removal and storage as required by Articles 12.2.4 and 12.2.5 within 10 days after written demand, University may, without prejudice to other remedies, sell such materials at auction or at private sale, or otherwise dispose of such material. Contractor shall be entitled to the proceeds of such sale, if any, in excess of the costs and damages for which Contractor is liable to University, including compensation for University's Representative's services and expenses. If such proceeds of sale do not cover costs and damages for which Contractor is liable to University, the Contract Sum shall be reduced by such deficiency. If there are no remaining payments due Contractor or the remaining payments are insufficient to cover such deficiency, Contractor shall promptly pay the difference to University.

12.2.7 Contractor's obligations under this Article 12 are in addition to and not in limitation of its warranty under Article 3.4 or any other obligation of Contractor under the Contract Documents. Enforcement of Contractor's express warranties and guarantees to repair contained in the Contract Documents shall be in addition to and not in limitation of any other rights or remedies University may have under the Contract Documents or at law or in equity for Defective Work. Nothing contained in this Article 12 shall be construed to establish a period of limitation with respect to the other obligations of Contractor under the Contract Documents. Establishment of the Guarantee to Repair Period relates only to the specific obligation of Contractor to correct the Work and in no way limits either Contractor's liability for Defective Work or the time within which proceedings may be commenced to enforce Contractor's obligations under the Contract Documents.

ARTICLE 13

TERMINATION OR SUSPENSION OF THE CONTRACT

13.1 TERMINATION BY CONTRACTOR

13.1.1 Subject to Article 13.1.2, Contractor shall have the right to terminate the Contract only upon the occurrence of one of the following:

- .1 Provided that University has not commenced reasonable action to remove any order of a court within the 90 day period, the Work is stopped for 90 consecutive days, through no act or fault of Contractor, any Subcontractor, or any employee or agent of Contractor or any Subcontractor, due to an issuance of an order of a court or other public authority having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable.
- .2 University fails to perform any material obligation under the Contract and fails to cure such default within 30 days, or University has not commenced to cure such default within 30 days where such cure will require a reasonable period beyond 30 days and diligently prosecutes the same to completion, after receipt of notice from Contractor stating the nature of such default(s).
- .3 Repeated suspensions by University, other than such suspensions as are agreed to by Contractor under Article 13.3, which constitute in the aggregate more than 20% of the Contract Time.

13.1.2 Upon the occurrence of one of the events listed in Article 13.1.1, Contractor may, upon 10 days additional notice to University and University's Representative, and provided that the condition giving rise to Contractor's right to terminate is continuing, terminate the Contract.

13.1.3 Upon termination by Contractor, University will pay to Contractor the sum determined by Article 13.4.4. Such payment will be the sole and exclusive remedy to which Contractor is entitled in the event of termination of the Contract by Contractor pursuant to Article 13.1; and Contractor will be entitled to no other compensation or damages and expressly waives the same.

13.2 TERMINATION BY UNIVERSITY FOR CAUSE

13.2.1 University will have the right to terminate the Contract for cause at any time after the occurrence of any of the following events:

- .1 Contractor becomes insolvent or files for relief under the bankruptcy laws of the United States.
- .2 Contractor makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.
- .3 A receiver is appointed to take charge of Contractor's property.
- .4 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, as a result of an Unexcusable Delay. For a Contract with a Contract Time of less than 300 days, the 30-day period shall be reduced to the number of days commensurate with 10% of the Contract Time.
- .5 Contractor abandons the Work.

13.2.2 Upon the occurrence of any of the following events, University will have the right to terminate the Contract for cause if Contractor fails to promptly commence to cure such default and diligently prosecute such cure within 5 days after notice from University, or within such longer period of time as is reasonably necessary to complete such cure:

- .1 Contractor persistently or repeatedly refuses or fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the Work in accordance with the Contract Documents.
- .2 Contractor fails to make prompt payment of amounts properly due Subcontractors after receiving payment from University.
- .3 Contractor disregards Applicable Code Requirements.
- .4 Contractor persistently or materially fails to execute the Work in accordance with the Contract Documents.
- .5 Contractor is in default of any other material obligation under the Contract Documents.
- .6 Contractor persistently or materially fails to comply with applicable safety requirements.

13.2.3 Upon any of the occurrences referred to in Articles 13.2.1 and 13.2.2, University may, at its election and by notice to Contractor, terminate the Contract and take possession of the Project site and all materials, supplies, equipment, tools, and construction equipment and machinery thereon owned by Contractor; accept the assignment of any or all of the subcontracts; and then complete the Work by any method University may deem expedient. If requested by University, Contractor shall remove any part or all of Contractor's materials, supplies, equipment, tools, and construction equipment and machinery from the Project site within 7 days of such request; and if Contractor fails to do so, University may remove or store, and after 90 days sell, any of the same at Contractor's expense.

13.2.4 If the Contract is terminated by University as provided in this Article 13.2, Contractor shall not be entitled to receive any further payment until the expiration of 35 days after Final Completion and acceptance of all Work by University.

13.2.5 If the unpaid balance of the Contract Sum exceeds the cost of completing the Work, including all additional costs and expenses made necessary thereby, including costs for University staff time, plus all losses sustained, including any liquidated damages provided under the Contract Documents, such excess shall be paid to Contractor. If such costs, expenses, losses, and liquidated damages exceed the unpaid balance of the Contract Sum, Contractor shall pay such excess to University.

13.2.6 No termination or action taken by University after termination shall prejudice any other rights or remedies of University provided by law or by the Contract Documents upon such termination; and University may proceed against Contractor to recover all losses suffered by University.

13.3 SUSPENSION BY UNIVERSITY FOR CONVENIENCE

13.3.1 University may, at any time and from time to time, without cause, order Contractor, in writing, to suspend, delay, or interrupt the Work in whole or in part for such period of time, up to 90 days, as University may determine, with such period of suspension to be computed from the date of delivery of the written order. Such order shall be specifically identified as a "Suspension Order" under this Article 13.3. The Work may be stopped for such further period as the parties may agree. Upon receipt of a Suspension Order, Contractor shall, at University's expense, comply with its terms and take all reasonable steps to minimize costs allocable to the Work covered by the Suspension Order during the period of Work stoppage. Within 90 days after the issuance of the Suspension Order, or such extension to that period as is agreed upon by Contractor and University, University shall either cancel the Suspension Order or delete the Work covered by such Suspension Order by issuing a Change Order.

13.3.2 If a Suspension Order is canceled or expires, Contractor shall continue with the Work. A Change Order will be issued to cover any adjustments of the Contract Sum or the Contract Time necessarily caused by such suspension. Any Claim by Contractor for an adjustment of the Contract Sum or the Contract Time shall be made within 21 days after the end of the Work suspension. Contractor agrees that submission of its claim within said 21 days is an express condition precedent to its right to Arbitrate or Litigate such a claim.

13.3.3 The provisions of this Article 13.3 shall not apply if a Suspension Order is not issued by University. A Suspension Order shall not be required to stop the Work as permitted or required under any other provision of the Contract Documents.

13.4 TERMINATION BY UNIVERSITY FOR CONVENIENCE

13.4.1 University may, at its option, terminate this Contract, in whole or from time to time in part, at any time by giving notice to Contractor. Upon such termination, Contractor agrees to waive any claims for damages, including loss of anticipated profits, on account thereof; and, as the sole right and remedy of Contractor, University shall pay Contractor in accordance with Article 13.4.4.

13.4.2 Upon receipt of notice of termination under this Article 13.4, Contractor shall, unless the notice directs otherwise, do the following:

- .1 Immediately discontinue the Work to the extent specified in the notice.
- .2 Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of such portion of the Work as is not discontinued.
- .3 Promptly cancel, on the most favorable terms reasonably possible, all subcontracts to the extent they relate to the performance of the discontinued portion of the Work.
- .4 Thereafter do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment on the Project site or in transit thereto.

13.4.3 Upon such termination, the obligations of the Contract shall continue as to portions of the Work already performed and, subject to Contractor's obligations under Article 13.4.2, as to bona fide obligations assumed by Contractor prior to the date of termination.

13.4.4 Upon such termination, University shall pay to Contractor the sum of the following:

- .1 The amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination, less sums previously paid to Contractor.

- .2 Plus an amount equal to the lesser of \$50,000 or 5% of the difference between the Contract Sum and the amount of the Contract Sum allocable to the portion of the Work properly performed by Contractor as of the date of termination.
- .3 Plus previously unpaid costs of any items delivered to the Project site which were fabricated for subsequent incorporation in the Work.
- .4 Plus any proven losses with respect to materials and equipment directly resulting from such termination.
- .5 Plus reasonable demobilization costs.
- .6 Plus reasonable costs of preparing a statement of the aforesaid costs, expenses, and losses in connection with such termination.

The above payment shall be the sole and exclusive remedy to which Contractor is entitled in the event of termination of the Contract by University pursuant to Article 13.4; and Contractor will be entitled to no other compensation or damages and expressly waives same.

ARTICLE 14
STATUTORY AND OTHER REQUIREMENTS

14.1 PATIENT HEALTH INFORMATION (if applicable)

Contractor acknowledges that its employees, agents, subcontractors, consultants and others acting on its behalf may come into contact with Patient Health Information ("PHI") while performing work at the Project Site. This contact is most likely rare and brief (e.g. walking through a clinic where patient files may be visible, overhearing conversations between physicians while working or touring a hospital, noticing a relative or acquaintance receiving treatment in a University facility, etc.). Contractor shall immediately notify University Representative of any such contact. Any and all forms of PHI should not be examined closer, copied, photographed, recorded in any manner, distributed or shared. Contractor will adopt procedures to ensure that its employees, agents and subcontractors refrain from such activity. If Contractor, its employees, agents or subcontractors do further examine, copy, photograph, record in any manner, distribute or share this information, Contractor will report such actions immediately to the University Representative. Contractor will immediately take all steps necessary to stop any such actions and will ensure that no further violations of this contractual responsibility will occur. Contractor will report to University Representative within five (5) days after Contractor gives University Representative notice of the event/action of the steps taken to prevent future occurrences.

14.2 NONDISCRIMINATION

14.2.1 For purposes of this Article 14.2, the term Subcontractor shall not include suppliers, manufacturers, or distributors.

14.2.2 Contractor shall comply and shall ensure that all Subcontractors comply with Section 12900 through 12996, of the State of California Government Code.

14.2.3 Contractor agrees as follows during the performance of the Work:

- .1 Contractor shall provide equal treatment to, and shall not willfully discriminate against or allow harassment of any employee or applicant for employment on the basis of: race; color; religion; sex; age; ancestry; national origin; sexual orientation; physical or mental disability; veteran's status; medical condition (as defined in Section 12926 of the State of California Government Code and including cancer-related medical conditions and or genetic characteristics); genetic information (as defined in the Genetic Information Nondiscrimination Act of 2008 and including family medical history); marital status; gender identity, pregnancy, or citizenship (within the limits imposed by law or University's policy) or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994). Contractor will also take affirmative action to ensure that any such employee or applicant for employment is not discriminated against on any of the bases identified above. Such equal treatment shall apply, but not be limited to the following: employment; upgrade; demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor also agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that qualified applicants will receive consideration for employment without regard to: race; color; religion; sex; age; ancestry; national origin; sexual orientation; physical or mental disability; veteran's status; medical condition (as defined in Section 12926 of the State of California Government Code and including cancer-related medical conditions and or genetic characteristics); genetic information (as defined in the Genetic Information Nondiscrimination Act of 2008 and including family medical history); marital status; gender identity, pregnancy, or citizenship (within the limits imposed by law or University's policy) or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994). For purposes of this provision: (1) "Pregnancy" includes pregnancy, childbirth, and medical conditions related to pregnancy and childbirth; and (2) "Service in the uniformed services" includes membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services.
- .2 Contractor and all Subcontractors will permit access to their records of employment, employment advertisements, application forms, and other pertinent data and records by University or any appropriate agency of the State of California designated by University for the purposes of investigation to ascertain compliance with this Article 14.2. The outcome of the investigation may result in the following:
 - .1 A finding of willful violation of the provisions of this Contract or of the Fair Employment Practices Act may be regarded by University as (1) a basis for determining that Contractor is not a "responsible bidder" as to future contracts for which such Contractor may submit bids or (2) a basis for refusing to

accept or consider the bids of Contractor for future contracts.

- .2 University may deem a finding of willful violation of the Fair Employment Practices Act to have occurred upon receipt of written notice from the Fair Employment Practices Commission that it has (1) investigated and determined that Contractor has violated the Fair Employment Practices Act and (2) issued an order under the State of California Government Code Section 12970 or obtained an injunction under Government Code Section 12973.
- .3 Upon receipt of such written notice from the Fair Employment Practices Commission, University may notify Contractor that, unless it demonstrates to the satisfaction of University within a stated period that the violation has been corrected, Contractor's bids on future projects will not be considered.
- .4 Contractor agrees that, should University determine that Contractor has not complied with this Article 14.2, Contractor shall forfeit to University, as a penalty, for each day or portion thereof, for each person who was denied employment as a result of such non-compliance, the penalties provided in Article 14.3 for violation of prevailing wage rates. Such penalty amounts may be recovered from Contractor; and University may deduct any such penalty amounts from the Contract Sum.
- .5 Nothing contained in this Article 14.2 shall be construed in any manner so as to prevent University from pursuing any other remedies that may be available at law.
- .6 Contractor shall meet the following standards for compliance and provide University with satisfactory evidence of such compliance upon University's request, which shall be evaluated in each case by University:
 - .1 Contractor shall notify its Superintendent and other supervisory personnel of the nondiscrimination requirements of the Contract Documents and their responsibilities thereto.
 - .2 Contractor shall notify all sources of employee referrals (including unions, employment agencies, and the State of California Department of Employment) of the nondiscrimination requirements of the Contract Documents by sending to such sources and by posting the Notice of Equal Employment Opportunity (EEO).
 - .3 Contractor or its representative shall, through all unions with whom it may have agreements, develop agreements that (1) define responsibilities for nondiscrimination in hiring, referrals, upgrading, and training and (2) implement an affirmative nondiscrimination program, in terms of the unions' specific areas of skill and geography, such that qualified minority women, nonminority women, and minority men shall be available and given an equal opportunity for employment.
 - .4 Contractor shall notify University of opposition to the nondiscrimination requirements of the Contract Documents by individuals, firms, or organizations during the term of the Contract.
- .7 Contractor shall include the provisions of the foregoing Articles 14.2.3.2.1 through 14.2.3.2.6 in all subcontracts with Subcontractors, so that such provisions will be binding upon each such Subcontractor.

14.3 PREVAILING WAGE RATES

14.3.1 For purposes of this Article 14.3, the term Subcontractor shall not include suppliers, manufacturers, or distributors.

14.3.2 Contractor shall comply and shall ensure that all Subcontractors comply with prevailing wage law pursuant to the State of California Labor Code, including but not limited to Section 1720 et seq. of the State of California Labor Code. Compliance with these sections is required by this Contract. The Work under this Contract is subject to compliance monitoring and enforcement by the State of California Department of Industrial Relations.

14.3.3 The State of California Department of Industrial Relations has ascertained the general prevailing per diem wage rates in the locality in which the Work is to be performed for each craft, classification, or type of worker required to perform the Work. A copy of the general prevailing per diem wage rates will be on file at University's principal facility office and will be made available to any interested party upon request. Contractor shall post a copy of the general prevailing per diem wage rates as well as job site notices as prescribed by regulation at the job site. By this reference, such schedule is made part of the Contract Documents. Contractor shall pay not less than the prevailing wage rates, as specified in the schedule and any amendments thereto, to all workers employed by Contractor in the execution of the Work. Contractor shall cause all subcontracts to include the provision that all Subcontractors shall pay not less than the prevailing rates to all workers employed by such Subcontractors in the execution of the Work. Contractor shall forfeit to University, as a penalty, not more than \$200 for each calendar day or portion thereof for each worker that is paid less than the prevailing rates as determined by the Director of Industrial Relations for the work or craft in which the worker is employed for any portion of the Work done by Contractor or any Subcontractor. The amount of this penalty shall be determined pursuant to applicable law. Such forfeiture amounts may be deducted from the Contract Sum or sought directly from the surety under its Performance Bond if there are insufficient funds remaining in the Contract Sum. Contractor shall also pay to any worker who was paid less than the prevailing wage rate for the work or craft for which the worker was employed for any portion of the Work, for each day, or portion thereof, for which the worker was paid less than the specified prevailing per diem wage rate, an amount equal to the difference between the specified prevailing per diem wage rate and the amount which was paid to the worker. Review of any civil wage and penalty assessment shall be made pursuant to section 1742 of the California Labor Code.

14.4 PAYROLL RECORDS

14.4.1 For purposes of this Article 14.4, the term Subcontractor shall not include suppliers, manufacturers, or distributors.

14.4.2 Contractor and all Subcontractors shall keep an accurate payroll record, showing the name, address, social security number, job classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyworker, apprentice, worker, or other employee employed in connection with the Work. All payroll records shall be certified as being true and correct by Contractor or Subcontractors keeping such records; and the payroll records shall be available for inspection at all reasonable hours at the principal office of Contractor on the following basis:

- .1 A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or the employee's authorized representative on request.
- .2 A certified copy of all payroll records shall be made available for inspection upon request to University, the State of California Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the State of California Division of Industrial Relations.
- .3 A certified copy of all payroll records shall be made available upon request by the public for inspection or copies thereof made; provided, however, that the request by the public shall be made to either University, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. The public shall not be given access to such records at the principal offices of Contractor or Subcontractors. Any copy of the records made available for inspection as copies and furnished upon request to the public or any public agency by University shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Contractor awarded the Contract or performing the Contract shall not be marked or obliterated.

14.4.3 Contractor shall file a certified copy of the payroll records with the entity that requested the records within 10 days after receipt of a written request. Contractor shall inform University of the location of such payroll records for the Project, including the street address, city, and county; and Contractor shall, within 5 working days, provide notice of change of location of such records. In the event of noncompliance with the requirements of this Article 14.4 or with the State of California Labor Code Section 1776, Contractor shall have 10 days in which to comply following receipt of notice specifying in what respects Contractor must comply. Should noncompliance still be evident after the 10 day period, Contractor shall forfeit to University, as a penalty, \$100 for each day, or portion thereof, for each worker, until strict compliance is accomplished. Such forfeiture amounts may be deducted from the Contract Sum.

See Supplementary Conditions

14.5 APPRENTICES

14.5.1 For purposes of this Article 14.5, the term Subcontractor shall not include suppliers, manufacturers, and distributors.

14.5.2 Only apprentices, as defined in the State of California Labor Code Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4, Division 3, of the State of California Labor Code, are eligible to be employed by Contractor and Subcontractors as apprentices. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and written apprentice agreements under which the apprentice is training and in accordance with prevailing wage law pursuant to the Labor Code, including but not limited to Section 1777.5. The Contractor bears responsibility for compliance with this section for all apprenticeable occupations.

14.5.3 Every apprentice shall be paid the standard wage to apprentices, under the regulations of the craft or trade at which the apprentice is employed, and shall be employed only at the Work in the craft or trade to which the apprentice is indentured.

14.5.4 When Contractor or Subcontractors employ workers in any apprenticeship craft or trade on the Work, Contractor or Subcontractors shall 1) send contract award information to the applicable joint apprenticeship committee that can supply apprentices to the site of the public work and 2) apply to the joint apprenticeship committee, which administers the apprenticeship standards of the craft or trade in the area of the Project site, for a certificate approving Contractor or Subcontractors under the apprenticeship standards for the employment and training of apprentices in the area of the Project site. The committee will issue a certificate fixing the number of apprentices or the ratio of apprentices to journeypersons who shall be employed in the craft or trade on the Work. The ratio will not exceed that stipulated in the apprenticeship standards under which the joint apprenticeship committee operates; but in no case shall the ratio be less than 1 hour of apprentice work for every 5 hours of journeyperson work, except as permitted by law. Contractor or Subcontractors shall, upon the issuance of the approval certificate in each such craft or trade, employ the number of apprentices or the ratio of apprentices to journeypersons fixed in the certificate issued by the joint apprenticeship committee or present an exemption certificate issued by the Division of Apprenticeship Standards.

14.5.5 "Apprenticeship craft or trade," as used in this Article 14.5, shall mean a craft or trade determined as an apprenticeship occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

14.5.6 If Contractor or Subcontractors employ journeyworkers or apprentices in any apprenticeship craft or trade in the area of the Project site, and there exists a fund for assisting to allay the cost of the apprenticeship program in the trade or craft, to which fund or funds other contractors in the area of the Project site are contributing, Contractor and Subcontractors shall contribute to the fund or funds in each craft or trade in which they employ journeyworkers or apprentices on the Work in the same amount or upon the same basis and in the same manner done by the other contractors. Contractor may include the amount of such contributions in computing its bid for the Contract; but if Contractor fails to do so, it shall not be entitled to any additional compensation therefor from University.

14.5.7 In the event Contractor willfully fails to comply with this Article 14.5, it will be considered in violation of the requirements of the Contract.

14.5.8 Nothing contained herein shall be considered or interpreted as prohibiting or preventing the hiring by Contractor or

Subcontractors of journeyworker trainees who may receive on-the-job training to enable them to achieve journeyworker status in any craft or trade under standards other than those set forth for apprentices.

14.6 WORK DAY

14.6.1 Contractor shall not permit any worker to labor more than 8 hours during any 1 day or more than 40 hours during any 1 calendar week, except as permitted by law and in such cases only upon such conditions as are provided by law. Contractor shall forfeit to University, as a penalty, \$25 for each worker employed in the execution of this Contract by Contractor, or any Subcontractor, for each day during which such worker is required or permitted to work more than 8 hours in any 1 day and 40 hours in any 1 calendar week in violation of the terms of this Article 14.6 or in violation of the provisions of any law of the State of California. Such forfeiture amounts may be deducted from the Contract Sum. Contractor and each Subcontractor shall keep, or cause to be kept, an accurate record showing the actual hours worked each day and each calendar week by each worker employed on the Project, which record shall be kept open at all reasonable hours to the inspection of University, its officers and agents, and to the inspection of the appropriate enforcement agency of the State of California.

14.7 BUY CLEAN CALIFORNIA ACT

14.7.1 The Buy Clean California Act (BCCA) requires the Department of General Services (DGS) to establish and publish the maximum acceptable Global Warming Potential (GWP) on "eligible materials", as described in Public Contract Code 3500 et seq.. As of July 1, 2022, the Contractor shall not install any eligible materials on the project until the Contractor submits a facility-specific Environmental Product Declaration for that material that meets the published GWP requirements.

ARTICLE 15
MISCELLANEOUS PROVISIONS

15.1 GOVERNING LAW

15.1.1 The Contract shall be governed by the law of the State of California.

15.2 SUCCESSORS AND ASSIGNS

15.2.1 University and Contractor respectively bind themselves and their successors, permitted assigns, and legal representatives to the other party and to the successors, permitted assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract, in whole or in part, without prior written consent of the other party. Notwithstanding any such assignment, each of the original contracting parties shall remain legally responsible for all of its obligations under the Contract.

15.3 RIGHTS AND REMEDIES

15.3.1 All University's rights and remedies under the Contract Documents will be cumulative and in addition to and not in limitation of all other rights and remedies of University under the Contract Documents or otherwise available at law or in equity.

15.3.2 No action or failure to act by University or University's Representative will constitute a waiver of a right afforded them under the Contract, nor will such action or failure to act constitute approval of or acquiescence in a condition or breach thereunder, except as may be specifically agreed in writing. No waiver by University or University's Representative of any condition, breach or default will constitute a waiver of any other condition, breach or default; nor will any such waiver constitute a continuing waiver.

15.3.3 No provision contained in the Contract Documents shall create or give to third parties any claim or right of action against University, University's Representative, or Contractor.

15.4 SURVIVAL

15.4.1 The provisions of the Contract which by their nature survive termination of the Contract or Final Completion, including all warranties, indemnities, payment obligations, and University's right to audit Contractor's books and records, shall remain in full force and effect after Final Completion or any termination of the Contract.

15.5 COMPLETE AGREEMENT

15.5.1 The Contract Documents constitute the full and complete understanding of the parties and supersede any previous agreements or understandings, oral or written, with respect to the subject matter hereof. The Contract may be modified only by a written instrument signed by both parties or as provided in Article 7.

15.6 SEVERABILITY OF PROVISIONS

15.6.1 If any one or more of the provisions contained in the Contract Documents should be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

15.7 UNIVERSITY'S RIGHT TO AUDIT

15.7.1 University and entities and agencies designated by University will have access to and the right to audit and the right to copy at University's cost all of Contractor's books, records, contracts, correspondence, instructions, drawings, receipts, vouchers, purchase orders, and memoranda relating to the Work. Contractor shall preserve all such records and other items during the performance of the Contract and for a period of at least 3 years after Final Completion.

15.8 METHODS OF DELIVERY FOR SPECIFIED DOCUMENTS

15.8.1 The following documents must be delivered in a manner specified in Article 15.8.2:

- .1 Contractor Notices of election to litigate or arbitrate;
- .2 Written demand for an informal conference to meet and confer pursuant to Article 4.5;
- .3 University's written statement identifying remaining disputes following informal conference pursuant to Article 4.6;
- .4 Written demand for non-binding mediation pursuant to Article 4.6;
- .5 Contractor claims pursuant to Article 4.3;
- .6 Contractor notices of conditions pursuant to Articles 3.17, 3.18, or 3.19;
- .7 University's notices of Contractor's failure to perform and/or correct defective work pursuant to Articles 4.1.6, 12.2 and 13.2.3;
- .8 University's notice to stop work pursuant to Article 2.3.1;
- .9 Notices of termination or suspension pursuant to Article 13.

15.8.2 Delivery methods for documents specified in Article 15.8.1:

- .1 By personal delivery.
- .2 Sent by facsimile copy where receipt is confirmed.
- .3 Sent by Express Mail, or another method of delivery providing for overnight delivery where receipt is confirmed.
- .4 Sent by registered or certified mail, postage prepaid, return receipt requested.

15.8.3 The documents identified in Article 15.8.1 shall only be effective if delivered in the manner specified in Article 15.8.2. Subject to the foregoing, such documents shall be deemed given and received upon actual receipt in the case of all except registered or certified mail; and in the case of registered or certified mail, on the date shown on the return receipt or the date delivery during normal business hours was attempted. Delivery of the specified documents shall be made at the respective street addresses set forth in the Agreement. Such street addresses may be changed by notice given in accordance with this Article 15.8.

15.9 TIME OF THE ESSENCE

15.9.1 Time limits stated in the Contract Documents are of the essence of the Contract.

15.10 MUTUAL DUTY TO MITIGATE

15.10.1 University and Contractor shall use all reasonable and economically practicable efforts to mitigate delays and damages to the Project and to one another with respect to the Project, regardless of the cause of such delay or damage.

15.11 UC FAIR WAGE

15.11.1 Contractor shall pay all persons providing construction services and/or any labor on site, including any University location, no less than the UC Fair Wage (defined as \$15 per hour) and shall comply with all applicable federal, state and local working condition requirements.

15.12 EXECUTION OF AGREEMENT

15.12.1 This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same Agreement. The counterparts of this Agreement may be executed via a digital signature process and shall have the same force and effect as the use of a manual signature. The University reserves the right to reject any digital signature unless it is unique to the person using it, capable of verification, created by public key cryptography or signature dynamics, and meets all requirements of California Government Code § 16.5 and California Code of Regulations 22000 through 22005.

END OF GENERAL CONDITIONS

SUPPLEMENTARY CONDITIONS

1. MODIFICATION OF ARTICLE 3 – CONTRACTOR

Replace Article 3.12.9 of the General Conditions with the below Article 3.12.9:

3.12.9 Environmental Product Declarations (BUY CLEAN CALIFORNIA)

3.12.9.1 Contractor on construction contracts \$1,000,000 and above shall comply with California Public Contract Code Section 3500 et seq., the Buy Clean California Act ("BCCA").

3.12.9.2 The term "Eligible Materials", as used herein, shall mean the same as defined by the BCCA, and shall include at a minimum the following materials:

- (1) Carbon steel rebar.
- (2) Flat glass.
- (3) Mineral wool board insulation.
- (4) Structural steel.

3.12.9.3 Compliance with the BCCA and this Article applies to all Eligible Materials for the Project.

3.12.9.4 Contractor shall submit to University a current (as of Notice to Proceed) facility-specific Environmental Product Declaration ("EPD"), Type III, as defined by the International Organization for Standardization ("ISO") standard 14025, or similarly robust life cycle assessment methods that have uniform standards in data collection consistent with ISO standard 14025, industry acceptance, and integrity, for each Eligible Material proposed to be used on the Project. The EPD must be specific to the material manufacturer and the facility where the material is manufactured.

3.12.9.5 Eligible Materials installed on the Project by Contractor must comply with any standards to the extent established in the BCCA (and listed on the Department of General Services BCCA site) or by University, whichever is more stringent. The facility-specific global warming potential for any Eligible Material must not exceed any existing maximum acceptable global warming potential for that material pursuant to the BCCA (and listed on the Department of General Services BCCA site) or by University, whichever is more stringent.

3.12.9.6 Contractor shall not install any Eligible Materials on the Project until Contractor submits a facility-specific EPD for that material which demonstrates that the material complies with any existing Eligible Material Standards (as included in the bid documents and as listed on the Department of General Services BCCA site) and this Article and the EPD is approved by the University. Contractor shall be responsible for any losses, expenses, penalties or damages of any type incurred or sustained by University, including but not limited to removal and replacement of Defective Work, which are caused by Contractor's failure to comply with the requirements of the BCCA or this Article.

3.12.9.7. Eligible exemptions may be approved with submission of a UC BCCA Exemption Form for qualifying exemptions as noted in the Facility Manual.

2. MODIFICATION OF GENERAL CONDITIONS, ARTICLE 8 – CONTRACT TIME

Adverse weather in excess of the following number of days will be granted a Contract Time extension pursuant to Article 8.4 of the General Conditions:

January	- 6 days	July	- 1 day
February.....	- 6 days	August	- 0 days
March.....	- 6 days	September	- 1 day
April.....	- 3 days	October	- 2 days
May.....	- 1 day	November	- 3 days
June.....	- 1 day	December	- 5 days

3. NOT USED

4. MODIFICATION OF GENERAL CONDITIONS, ARTICLE 11 – INSURANCE AND BONDS

Contractor shall furnish and maintain insurance in the amounts below.

The insurance required by 11.1.2.1 and 11.1.2.2 shall be (i) issued by companies with a Best rating of A- or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor or Moody's) or (ii) guaranteed, under terms consented to by the University (such consent to not be unreasonably withheld), by companies with a Best rating of A- or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor or Moody's). Such insurance shall be written for not less than the following: 11.1.2.1

Commercial General Liability Insurance – Limits of Liability	Minimum Requirements
Each Occurrence - Combined Single Limit for Bodily Injury and Property Damage.....	\$2,000,000
Products - Completed Operations Aggregate.....	\$2,000,000
Personal and Advertising Injury	\$2,000,000
General Aggregate	\$2,000,000

11.1.2.2 Business Automobile Liability Insurance - Limits of Liability
Each Accident - Combined Single Limit for
Bodily Injury and Property Damage.....\$2,000,000

Insurance required by Article 11.1.2.3 shall be issued by companies (i) that have a Best rating of B+ or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor or Moody's); or (ii) that are acceptable to the University. Such insurance shall be written for not less than the following:

11.1.2.3 WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY - Minimum
Requirements

Worker's Compensation	(as required by Federal and State of California law)
Employer's Liability:	
Each Employee	\$1,000,000
Each Accident.....	\$1,000,000
Policy Limit	\$1,000,000

The following Article is added to the General Conditions pursuant to Article 11.1.2:

11.1.2.4 The Contractor shall obtain, either itself or through the applicable Subcontractor(s) performing Work involving hazardous materials, Contractor's Pollution Liability (CPL) insurance coverage for such Work AND an endorsement to either its CPL or Business Auto policies for transporting or hauling of hazardous materials. The insurance required by this Article 11.1.2.4 shall be (i) issued by companies with a Best rating of A- or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor or Moody's) or (ii) guaranteed, under terms consented to by the University (such consent to not be unreasonably withheld), by companies with a Best rating of A- or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor or Moody's). Such CPL insurance shall be written for not less than the following minimum limits:

CONTRACTOR'S POLLUTION LIABILITY – Limits of Liability	Minimum Requirements
Each Loss.....	\$2,000,000
Policy Aggregate	\$2,000,000

Such CPL insurance shall, by endorsement to the policies, also include the following:

- .1 The Regents of the University of California and each of their Representatives, consultants, officers, agents, employees, and each of their Representative's consultants shall be included as additional insureds on a primary non-contributory basis.
- .2 As to all liability insurance policies, each shall include a waiver of subrogation endorsement evidencing that the Contractor and/or Subcontractor waives all rights of recovery by subrogation against University, University's Representative, University's Representative's consultants, their respective officers, agents, or employees.
- .3 Except with respect to the limits of insurance, Contractor and Subcontractor required insurance shall apply separately to each insured or additional insured.

- .4 Coverage for Emergency Response Costs, with a 72-hour minimum time frame.
- .5 Coverage for Crisis Management, Public Relations Management or Equivalent.
- .6 Coverage for Mold and Fungi.
- .7 Coverage for transportation of hazardous materials.
- .8 Coverage for non-owned hazardous material disposal sites.

If coverage is provided on an Occurrence form, Contractor and/or Subcontractor shall maintain and show evidence of coverage while Work involving hazardous materials is being completed, to include Completed Operations liability coverage for a minimum period of ten (10) years or the applicable Statute of Repose as provided by the law of the jurisdiction where the project is located as shown in the policy(ies), whichever is less.

If coverage is provided on a Claims-Made form, Contractor shall maintain and show evidence of coverage while Work involving hazardous materials is being completed to include a ten (10)-year Extended Reporting Period from the completion of contracted services.

Coverage must extend to Transportation and Hauling of hazardous materials. The University shall require a copy of the policy endorsement noting extension of Transportation coverage. If this extension of coverage is not provided under the Contractor's or applicable Subcontractor's Contractor's Pollution Liability, then the Contractor/Subcontractor shall also be required to evidence the following under its Business Auto policy:

COMMERCIAL AUTO - Combined Single Limit Per Accident \$2,000,000

Covering Transportation and/or Hauling and/or Disposing of hazardous materials by amending the pollution exclusion of ISO Form CA 00010 6/92 (or its equivalent) in the following manner:

- .1 Delete Section a.(1)a.: (Pollution) "being transported or towed away by, or handled for movement into, onto or from the Covered Auto."
- .2 Delete Section a.(1)b.: "Otherwise in the course of transit by the insured."

Coverage shall include MCS-90 endorsement and shall be endorsed to specifically limit the reimbursement provisions of the MCS-90 to the Named Insured.

In the event that Contractor and/or Subcontractor utilize drone(s)/Unmanned Aerial Vehicle(s) in the performance of their Work, the following Article is added to the General Conditions pursuant to Article 11.1.2:

- 11.1.2.5 The Contractor shall obtain, either itself or through the applicable Subcontractor(s) in use of drone(s)/Unmanned Aerial Vehicle(s) (UAV(s)) in the performance of their Work, separate Unmanned Aircraft System (UAS) insurance. Contractor and/or Subcontractor shall maintain and show evidence of coverage pursuant to this Article 11.1.2.5 while Work involving drone(s)/UAV(s) is being completed. The insurance required by this paragraph shall be (i) issued by companies with a Best rating of A- or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor's or Moody's) or (ii) guaranteed, under terms consented to by the University (such consent to not be unreasonably withheld), by companies with a Best rating of A- or better, and a financial classification of VIII or better (or an equivalent rating by Standard & Poor's or Moody's).

Contractor and/or Subcontractor in use of a drone/UAV in the performance of their Work shall meet all FAA requirements for certification and comply with all FAA rules for operation of the drone/UAV and any established University policy relating to operation of unmanned aircraft systems at University location.

Such UAV Liability coverage as provided by a UAS insurance policy shall be written for not less than the following minimum limits:

<u>UAV / UAS Insurance –Limits of Liability</u>	<u>Minimum Requirements</u>
Per Occurrence	\$1,000,000
Annual Aggregate	\$1,000,000

Such UAS insurance policy must include coverage for Bodily Injury (Liability), Property Damage (Liability) and Physical Damage to the UAV and support systems. Contractor and/or Subcontractor shall be required to also show evidence of the following under its UAS policy:

Such UAS insurance shall, by endorsement to the policies, also include the following:

- .1 The Regents of the University of California and each of their Representatives, consultants, officers, agents, employees, and each of their Representative's consultants shall be included as additional insureds on a primary non-contributory basis.
- .2 As to all liability insurance policies, each shall include a waiver of subrogation endorsement evidencing that the Contractor and/or Subcontractor waives all rights of recovery by subrogation against University, University's Representative, University's Representative's consultants, their respective officers, agents, or employees.
- .3 If insurance policy providing coverage requires that each UAV be scheduled, the Contractor and/or Subcontractor shall meet all reporting requirements of the insurance company to schedule insurance for the actual unit (drone/UAV) in use in the performance of their Work.

5. MODIFICATION OF GENERAL CONDITIONS, ARTICLE 14 – STATUTORY AND OTHER REQUIREMENTS

The following new Subparagraph 14.4.4 is added to Article 14.4:

- 14.4.4 Contractor and every Subcontractor required to submit certified payrolls shall use the web-based electronic certified payroll reporting (eCPR) system to be named by University. The software shall be a web-based eCPR system accessed by a web browser. Contractor and each Subcontractor will be furnished a log-on identification and password to access University's reporting system. Use of the system may entail additional data entry of weekly payroll information including, without limitation: employee identification, labor classification, total hours worked and hours worked on the project, wage and benefit rates paid, etc. The required software shall be used regardless of the ability to interface with Contractor's or Subcontractor's payroll and accounting software or system. On-line training in the use of the system will be available via the Internet. University may elect to schedule training classes in the use of the software and Contractor shall have all necessary personnel attend and shall require attendance by all Subcontractors.

END OF SUPPLEMENTARY CONDITIONS



CERTIFICATE OF LIABILITY INSURANCE

(for UCIP Projects)

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
INSURED	INSURER A:	
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR (NEW) AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC						
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS						
	UMBRELLA LIAB ☐ OCCUR EXCESS LIAB ☐ CLAIMS-MADE DED ☐ RETENTION \$						
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ Y/N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				WC STATU-TORY LIMITS OTH-ER
	PROFESSIONAL LIABILITY ☐ OCCUR ☐ CLAIMS-MADE						

Special Provisions:

- The Regents of the University of California, The University of California, University, the UCIP Administrator, and each of their Representatives, consultants, officers, agents, employees, each of their Representative's consultants, and all enrolled parties, regardless of whether or not identified in the Contract Documents or to the Contractor in writing, are included as additional insureds on the general liability policy as required by contract and pursuant to additional insured endorsement CG2010 (11/85) or a combination of both CG 2010 (10/01 or 07/04) and CG 2037 (10/01 or 07/04) but only in connection with ____ (name of project) ____.
- The Professional Liability insurance policy shall include Contractual Liability coverage for liability that would exist in the absence of the contract.
- The General Liability coverage shall contain a Severability of Interest provision and shall be primary insurance as respects The Regents of the University of California, its officers, agents and employees. Any insurance or self-insurance maintained by The Regents of the University of California shall be excess of and non-contributory with this insurance.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

The undersigned certifies that he/she is authorized to sign this certificate and that the Special Provisions described herein have been made a part of the policy(ies) shown above.

CERTIFICATE HOLDER: The Regents of the University of California

Forward to: {Office, Room Number or Mail Stop} University of California, {Facility} {Street Address} {City, State, Zip}	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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Rev 8/23/12

Project No. _____{#}
Bond No. _____

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, The Regents of the University of California ("The Regents") has awarded to {_____} as Principal a contract dated the _____ day of {_____}, 20{____}, (the "Contract") for the work described as follows:

{Project Name}
Order Number {_____}
Project Number {#}

AND WHEREAS, the Principal is required to furnish a bond in connection with the Contract, to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;

NOW, THEREFORE, we, the undersigned Principal and {_____} as Surety, are held and firmly bound unto The Regents in the sum of {_____} Dollars (\$ {_____}), for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by The Regents, or its subcontractors shall fail to pay any of the persons named in State of California Civil Code Section 9100, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall become and be null and void.

This bond shall inure to the benefit of any of the persons named in State of California Civil Code Section 9100 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.

Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with the Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing The Regents' rights against the other.

In the event suit is brought upon this bond, the parties not prevailing in such suit shall pay reasonable attorneys' fees and costs incurred by the prevailing parties in such suit.

Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of {_____, {_____}.

Principal: _____
(Name of Firm)

Surety: _____
(Name of Firm)

By: _____
(Signature)

By: _____
(Signature)

(Printed Name)

(Printed Name)

Title: _____

Title: _____

Address for Notices:

NOTE: Notary acknowledgement for Surety and Surety's Power of Attorney must be attached.

Project No. _____ {#}
Bond No. _____

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, The Regents of the University of California ("The Regents") has awarded to {_____} as Principal a contract dated the _____ day of {_____, {_____, (the "Contract"), which Contract is by this reference made a part hereof, for the work described as follows:

{Project Name}
Order Number {_____
Project Number {#}

AND WHEREAS, Principal is required to furnish a bond in connection with the Contract, guaranteeing the faithful performance thereof;

NOW, THEREFORE, we, the undersigned Principal and {_____} as Surety, are held and firmly bound unto The Regents in the sum of {_____} Dollars (\$ {_____}), to be paid to The Regents or its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by The Regents, shall promptly and faithfully perform the covenants, conditions, and agreements of the Contract during the original term and any extensions thereof as may be granted by The Regents, with or without notice to Surety, and during the period of any guarantees or warranties required under the Contract, and shall also promptly and faithfully perform all the covenants, conditions, and agreements of any alteration of the Contract made as therein provided, notice of which alterations to Surety being hereby waived, on Principal's part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify, defend, protect, and hold harmless The Regents as stipulated in the Contract, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect.

No extension of time, change, alteration, modification, or addition to the Contract, or of the work required thereunder, shall release or exonerate Surety on this bond or in any way affect the obligation of this bond; and Surety does hereby waive notice of any such extension of time, change, alteration, modification, or addition.

Whenever Principal shall be and declared by The Regents to be in default under the Contract, Surety shall promptly remedy the default, or shall promptly:

1. Undertake through its agents or independent contractors, reasonably acceptable to The Regents, to complete the Contract in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages, or, at Surety's election, or, if required by The Regents,

2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and, upon determination by The Regents of the lowest responsible bidder, arrange for a contract between such bidder and The Regents and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this

paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Sum, and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages; but, in any event, Surety's total obligations hereunder shall not exceed the amount set forth in the third paragraph hereof. The term "balance of the Contract Sum," as used in this paragraph, shall mean the total amount payable by The Regents to the Principal under the Contract and any amendments thereto, less the amount paid by The Regents to Principal.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing The Regents' rights against the others.

No right of action shall accrue on this bond to or for the use of any person or corporation other than The Regents or its successors or assigns.

Surety may join in any arbitration proceedings brought under the Contract and shall be bound by any arbitration award.

In the event suit is brought upon this bond by The Regents, Surety shall pay reasonable attorney's fees and costs incurred by The Regents in such suit.

Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of {_____, {_____}.

Principal: _____
(Name of Firm)

Surety: _____
(Name of Firm)

By: _____
(Signature)

By: _____
(Signature)

(Printed Name)

(Printed Name)

Title: _____

Title: _____

Address for Notices:

NOTE: Notary acknowledgement for Surety and Surety's Power of Attorney must be attached.

APPLICATION FOR PAYMENT

Number: _____ Period to: _____

TO UNIVERSITY: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, LOS ANGELES
AND UNIVERSITY'S REPRESENTATIVE: _____

FROM CONTRACTOR: _____

Address: _____

Project Name: _____

Project #: _____ Order #: _____

Contract Date: _____ Application Date: _____

CHANGE ORDER SUMMARY:**Additions****Deductions**

Change Orders approved in previous months: Total: \$ _____ \$ _____

Change Orders approved this month:

Number: _____ Date Approved: _____

_____	_____	\$ _____	\$ _____
_____	_____	\$ _____	\$ _____
_____	_____	\$ _____	\$ _____
Total:		\$ _____	\$ _____

NET CHANGE BY CHANGE ORDERS: \$ _____

Application is made for payment under the Contract as shown below and in Schedule 1 attached hereto:

1. ORIGINAL CONTRACT SUM\$ _____
2. NET CHANGE BY CHANGE ORDERS\$ _____
3. CONTRACT SUM TO DATE (Line 1 ± Line 2)\$ _____
4. TOTAL AMOUNT COMPLETED TO DATE (Column E on Schedule 1)\$ _____
5. RETENTION: 5% of Completed Work (Column H on Schedule 1)\$ _____
 - a. Current Value of Securities Deposited in Escrow\$ _____
 - b. Current Value of Retention Deposited in Escrow\$ _____
 - c. Retention Held by University\$ _____
 - Current Retention Value (a + b + c)\$ _____
6. TOTAL EARNED LESS RETENTION (Line 4 less Line 5)\$ _____
7. TOTAL AMOUNT PREVIOUSLY PAID\$ _____
8. CURRENT PAYMENT DUE (Line 6 less Line 7)\$ _____
9. BALANCE TO FINISH, PLUS RETENTION (Line 3 less Line 6)\$ _____

The undersigned Contractor hereby represents and warrants to University that all Work, for which Certificates for Payment have previously been issued and payment received from University, is free and clear of all claims, stop notices, security interests, and encumbrances in favor of Contractor, any Subcontractor, and any other persons or firms entitled to make claims by reason of having provided labor, materials, or equipment related to the Work.

The following Schedules are attached and incorporated herein, and made a part of this Application for Payment:

- Schedule 1 Cost Breakdown Schedule
- Schedule 2 Certification of Current Market Value of Securities in Escrow in Lieu of Retention
- Schedule 3 List of Subcontractors
- Schedule 4 Declaration of Releases of Claims

(Contractor)

By: _____
(Name)

(Title)

DECLARATION

I, _____, hereby declare that I am the _____ of Contractor submitting this Application for Payment; that I am duly authorized to execute and deliver this Application for Payment on behalf of Contractor; and that all information set forth in this Application for Payment and all Schedules attached hereto are true, accurate, and complete as of its date.

I declare, under penalty of perjury, that the foregoing is true and correct and that this declaration was subscribed at

_____, _____, State of _____

on _____, 20____.

(Signature)

(Print Name)

Project Name: _____
Project #: _____ Application #: _____ Application Date: _____
Order #: _____ Period To: _____
Contract Date: _____ Contractor: _____

**SCHEDULE 1
TO
APPLICATION FOR PAYMENT
COST BREAKDOWN**

A	B	C	D	E	F	G	H
ITEM NO.	DESCRIPTION OF WORK ACTIVITY OR OTHER ITEM	SCHEDULE D VALUE	% COMPLETE TO DATE	TOTAL AMOUNT COMPLETED TO DATE (C x D)	TOTAL AMOUNT COMPLETED ON PRIOR APPLICATION FOR PAYMENT	AMOUNT OF THIS APPLICATION (E - F)	RETENTION

PROJECT NAME: _____

PROJECT #: _____ APPLICATION #: _____

CONTRACTOR: _____

**SCHEDULE 2
TO
APPLICATION FOR PAYMENT**

**CERTIFICATION OF CURRENT MARKET VALUE
OF SECURITIES IN ESCROW IN LIEU OF RETENTION**

As of _____, 20____ (not earlier than 5 days prior to the date of the Application for Payment of which this certification is a part), the aggregate market value of securities on deposit in Escrow Account

Number _____ with _____
(Escrow Agent)

is _____ Dollars (\$_____).

(Escrow Agent)

(Contractor)

By: _____
(Name)

By: _____
(Name)

(Title)

(Title)

Date: _____

Date: _____

NOTE: Notary acknowledgment for Contractor and Escrow Agent must be attached.

PROJECT NAME: _____

PROJECT #: _____ APPLICATION #: _____

CONTRACTOR: _____

**SCHEDULE 3
TO
APPLICATION FOR PAYMENT**

LIST OF SUBCONTRACTORS

Subcontractors listed below are all Subcontractors furnishing labor, services, or materials for the period referred to in the Application for Payment referenced above, of which this Schedule 3 is a part:

Name of Subcontractor	Subcontracted Work Activity	Date Work Activity Completed

(Contractor)

By: _____
(Name)

(Title)

(Date)

PROJECT NAME: _____

PROJECT #: _____ APPLICATION #: _____

CONTRACTOR: _____

**SCHEDULE 4
TO
APPLICATION FOR PAYMENT**

DECLARATION OF RELEASE OF CLAIMS

Contractor hereby certifies that attached hereto are releases and waivers of claims and stop notices from all Subcontractors furnishing labor, services, or materials covered by the Certificate for Payment dated

_____, 20____, except those listed below:

(Contractor)

By: _____
(Name)

(Title)

Date: _____

SELECTION OF RETENTION OPTIONS

SELECTION OPTION 1
University will withhold retention

☐ Check here for Option 1

OR SELECT OPTION 2

☐ Check here for Option 2

herewith elect to substitute securities in the form of:

(Type of Security)

in lieu of retention being withheld by University for
the above-referenced project.

OR SELECT OPTION 3

☐ Check here for Option 3

herewith elect to have retention on the above-
referenced project paid directly to the Escrow
Account.

(Type of Security to be Purchased)

An Escrow Account will be opened with*:

(Name of state or federally chartered bank in California)

whose address is:

(Street)

(City, County)

(State, Zip Code)

On Behalf of Contractor**
(Signature shall be by the authorized party who will sign the
Escrow Agreement.)

On Behalf of University
Acknowledged and Approved

By: _____
(Name)

By: _____
(Name)

(Title)

(Title)

* Note: Contractor and its surety bear the risk of failure of the bank selected.

** Signature shall be by the authorized party who signs the Escrow Agreement for Deposit of Securities in
Lieu of Retention and Deposit of Retention ("Escrow Agreement").

**Note: If a completed and signed Escrow Agreement is not submitted with this form, University will
not allow deposit of securities in lieu of retention.**

RETURN THIS AGREEMENT SIGNED BY CONTRACTOR AND ESCROW AGENT TO:
UNIVERSITY OF CALIFORNIA, LOS ANGELES
CONTRACTS ADMINISTRATION
1060 VETERAN AVENUE, SUITE 125
BOX 951365
LOS ANGELES, CALIFORNIA 90095-1365

Escrow Account No.: _____

**ESCROW AGREEMENT FOR
DEPOSIT OF SECURITIES IN LIEU OF RETENTION
AND
DEPOSIT OF RETENTION**

This Escrow Agreement is made as of _____, 2017, and entered into by and between THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, whose address is University of California, Office of the President, 1111 Franklin St., 6th Floor, Oakland, California 94607, hereinafter called "University," and _____ hereinafter called "Contractor," and _____, a state or federally chartered bank in the state of California, whose address is _____, hereinafter called "Escrow Agent." For consideration hereinafter set forth, University, Contractor, and Escrow Agent agree as follows:

(1) Contractor has the option to deposit securities with Escrow Agent as a substitute for retention required to be withheld by University pursuant to the Contract Documents, hereinafter referred to as "Contract," entered into between University and Contractor for the Project titled 26585 Agoura Road Site Improvements, Project No. _____, in the amount of \$ _____ dated _____, 2017. Alternatively, on written request of Contractor, University shall deposit retention directly with Escrow Agent. Contractor and its surety shall be at risk for the failure of the Escrow Agent selected. When Contractor deposits the securities as a substitute for retention, Escrow Agent shall notify University within 5 days after the deposit. At all times, Contractor shall have on deposit securities the market value of which is at least equal to the cash amount then required to be withheld as retention under the terms of the Contract. Securities shall be held in the name of The Regents of the University of California, Los Angeles; and Contractor shall be designated as the beneficial owner.

(2) Escrow Agent shall review the market value of securities deposited in escrow under this Escrow Agreement as often as conditions of the securities market warrant, but in no case less than once per month. Escrow Agent shall promptly notify University and Contractor of the market value of the deposited securities if such market value is less than the total amount of retention required to be withheld under the terms of the Contract. Contractor shall promptly deposit additional securities so that the current market value of the total of all deposited securities shall be at least equal to the total required amount of retention. Escrow Agent shall, within 5 days after University's request, provide a statement to University of the current market value of all securities deposited under this Escrow Agreement as of a date not earlier than 5 days prior to such request. The provisions of this Paragraph 2 shall not apply to securities consisting of monetary deposits as allowed by Paragraph 7 held by a bank as Escrow Agent, provided the bank provides monthly statements reflecting the status of the monetary deposits held by the bank to University and Contractor.

(3) Contractor shall not use any or all of the securities deposited in lieu of retention under this Escrow Agreement for any other obligations, including deposits in lieu of retention for other contracts. Contractor represents, covenants and warrants that all deposited securities shall be lien free when tendered to the Escrow Agents and shall remain lien free during their retention by the Escrow Agent.

(4) University shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provision, provided that Escrow Agent holds securities in the form and amount specified herein.

(5) Prior to Contractor's submission of each Application For Payment, Escrow Agent shall issue a current statement of (a) the value of the securities currently being deposited in lieu of retention and

(b) the current value of all securities being held in escrow pursuant to this Escrow Agreement. Such statement shall be no more than 5 days old at the time of submission, shall be notarized or have a guarantee of signature, and shall be submitted to Contractor with a copy to University under separate cover. Contractor shall attach such original statement to each Application For Payment. The provisions of this Paragraph 5 shall not apply to securities consisting of monetary deposits as allowed by Paragraph 7 held by a bank as Escrow Agent, provided the bank provides monthly statements reflecting the status of the monetary deposits held by the bank to University and Contractor.

(6) If, at the request of Contractor, University deposits retention directly with Escrow Agent, Escrow Agent shall hold such retention for the benefit of Contractor until such time as the escrow created under the Contract is terminated. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when University deposits retention directly with Escrow Agent.

(7) University will allow Contractor to deposit the following securities in lieu of retention and direct the investment of the retention deposits into any of the following which at the time of payment are legal investments under the laws of the State of California:

- a. Direct obligations of the United States of America (including obligations issued or held in book-entry form on the books of the Department of the Treasury of the United States of America or any Federal Reserve Bank), or obligations the timely payment of the principal of and interest on which are fully guaranteed by the United States of America, or tax-exempt obligations which are rated in the highest rating category of a nationally recognized bond rating agency.
- b. Obligations, debentures, notes or other evidence of indebtedness issued or guaranteed by any of the following: Banks for Cooperatives, Federal Intermediate Credit Banks, Federal Home Loan Bank System, Export-Import Bank of the United States, Federal Financing Bank, Federal Land Banks, Federal Farm Credits, Government National Mortgage Association, Farmer's Home Administration, Federal Home Loan Mortgage Corporation, or Federal Housing Administration.
- c. Bonds of the State of California or those for which the faith and credit of the State of California are pledged for the payment of principal and interest.
- d. Interest-bearing bankers acceptances and demand or time deposits (including certificates of deposit) in banks, provided such deposits are either (1) secured at all times, in the manner and to the extent provided by law, by collateral security described in clauses a or b of this Paragraph 7 continuously having a market value at least equal to the amount so invested so long as such underlying obligations or securities are in the possession of the Securities Investors Protection Corporation, (2) in banks having a combined capital and surplus of at least One Hundred Million Dollars, or (3) fully insured by the Federal Deposit Insurance Corporation.
- e. Taxable government money market portfolios restricted to obligations with maturities of one (1) year or less, issued or guaranteed as to payment of principal and interest by the full faith and credit of the United States of America.
- f. Commercial paper rated in the highest rating category of a nationally recognized rating agency, and issued by corporations organized and operating within the United States of America and having total assets in excess of Five Hundred Million Dollars.

(8) Contractor shall be responsible for paying all fees, costs, and expenses incurred by Escrow Agent in administering the escrow account. These expenses and payment terms shall be determined by Contractor and Escrow Agent. All fees, costs, and expenses of this Escrow Agreement and any transactions carried out hereunder shall be billed by Escrow Agent to Contractor. In the event that any fees, costs, or expenses shall remain unpaid in excess of 30 days from the date due, Escrow Agent may withhold such unpaid amount from any income distributable to Contractor, but shall not withhold such unpaid amount from any income distributable to University.

(9) Interest earned on the securities or the money market accounts held in escrow and all interest earned on the interest shall be for the sole account of Contractor and shall be held in escrow. Interest may be withdrawn by Contractor from time to time, without notice to University, only to the extent that the total amount held in escrow meets or exceeds the required amount of retention.

(10) Except as provided in Paragraph 9, Contractor shall have the right to withdraw all or any part of the escrow account only by written notice to Escrow Agent accompanied by written authorization from University to Escrow Agent stating that University consents to the withdrawal of the amount sought to be withdrawn by Contractor. University shall not be obligated to consent to any withdrawal to the extent of stop notice claims which cannot be satisfied from other funds then due and payable to Contractor.

(11) University shall have the right to draw upon the securities, any interest earned on the securities, and any interest earned on the interest in the event of default by Contractor. Upon 7 days written notice to Escrow Agent from University, with a copy to Contractor, Escrow Agent shall immediately convert the securities, any interest earned on the securities, and all interest earned on the interest to cash and shall distribute the cash as instructed by University. Escrow Agent shall have no duty to determine whether a default has occurred and may rely solely upon the written notice of such default from University.

(12) Upon receipt of written notification from University certifying that final payment is due under the Contract, Escrow Agent shall release to Contractor the amount, if any, by which the value of all securities and interest on deposit less escrow fees and charges of the escrow account exceeds 125% of all stop notice claims on file. Escrow Agent shall pay the remaining amount to University or as directed by University. The escrow shall be closed immediately upon disbursement of all monies and securities on deposit and payment of fees and charges.

(13) Escrow Agent shall rely upon the written notifications from University and Contractor pursuant to this Escrow Agreement; and University and Contractor shall hold Escrow Agent harmless from Escrow Agent's release, conversion, and disbursement of the securities and interest as set forth herein.

(14) Escrow Agent shall have the right to terminate this Escrow Agreement upon 30 days notice to all parties hereunder. Upon receipt of such notice, University and Contractor shall appoint a successor Escrow Agent in writing and deliver written notice of such appointment to Escrow Agent. Thereupon, Escrow Agent shall deliver all assets in its custody to such successor Escrow Agent and all responsibility of Escrow Agent under this Escrow Agreement shall terminate; provided, however, if Contractor and University fail to appoint a successor Escrow Agent on or before the end of the 30 day notice period, then Escrow Agent is authorized and instructed to return all assets, documents, and other items in its custody to University and this Escrow Agreement shall be terminated without further instruction.

(15) The duties and responsibilities of Escrow Agent shall be limited to those expressly set forth in this Escrow Agreement; provided, however, that, with Escrow Agent's written consent, the duties and responsibilities in this Escrow Agreement may be amended at any time or times by an instrument in writing signed by all parties.

(16) Whenever Contractor tenders securities to be deposited in lieu of retention, an authorized representative of the Contractor shall declare under penalty of perjury that the securities are lien free and shall remain lien free during their retention by the Escrow Agent. The declaration shall be in the following form:

"The undersigned, on behalf of _____ whose address is _____ represents, covenants and warrants that the securities tendered herewith are lien free and shall remain lien free during their retention by the Escrow Agent.

I, _____, hereby declare that I am the _____ of _____, that I am duly authorized to make this representation, and that I declare under perjury under the laws of the State of California that the foregoing is true and correct."

(Signature)

(Date)

(17) The names of the persons authorized to give written notice or to receive written notice on behalf of University and on behalf of Contractor in connection with this Escrow Agreement, and exemplars of their respective signatures, are as set forth below. Such names may be changed by written notice to the other parties.

1. Susan G. Santon
(Name)

(Signature)

310-825-9114
(Telephone Number)

1. _____
(Name)

(Signature)

(Telephone Number)

2. Brian Milhorn
(Name)

(Signature)

310-206-7407
(Telephone Number)

2. _____
(Name)

(Signature)

(Telephone Number)

Contractor, Escrow Agent, and University hereby agree to the covenants contained herein.

IN WITNESS WHEREOF, Contractor, Escrow Agent, and University have executed this Escrow Agreement, the day and year first written above.

UNIVERSITY:

By: _____
(Signature)

Susan G. Santon
(Printed Name)

Associate Vice Chancellor, Capital Planning and Finance
(Title)

310-825-9114
(Telephone Number)

By: _____
(Signature)

Allison Baird-James
(Printed Name)

Controller / Associate Vice Chancellor, Corp Fin Services
(Title)

(310) 794-8686
(Telephone Number)

CONTRACTOR:

By: _____
(Signature)

(Printed Name)

(Title)

(Telephone Number)

By: _____
(Signature)

(Printed Name)

(Title)

(Telephone Number)

ESCROW AGENT:

By: _____
(Signature)

(Printed Name)

(Title)

(Telephone Number)

SUBMITTAL SCHEDULE

Project Name: _____

Project #: _____ Order #: _____

Contract Date: _____ Subcontractor: _____

Spec. Section: _____ Work Activity: _____

Event	Scheduled Completion Date	Actual Completion Date	Calendar Days Required to Complete
1. Received by Contractor and Time for Checking			
2. First Delivered to University's Representative and Time for Checking			
3. Return to Contractor			
4. Corrections Completed and Time for Corrections			
5. Next Delivered to University's Representative and Time for Checking			
6. Return to Contractor			
7. Approval for Job Information			
8. Approval for Fabrication and Time for Fabrication			
9. Fabrication Completed			
10. Shipping Date and Time Enroute			
11. Delivery to Job			

COST PROPOSAL

Date: _____ Change Order Request #: _____

Project Name: _____

Project #: _____ Order #: _____

Contract Date: _____

Scope of Change:

Instructions:

1. Complete this form by providing (a) all information required above, (b) the amount and justification based upon the Contract Schedule for any proposed adjustment of Contract Time, (c) the proposed adjustment of Contract Sum, (d) the attached "Cost Proposal Summary," and (e) the attached form titled, "Supporting Documentation for the Cost Proposal Summary."
2. Attach the form titled "Supporting Documentation for the Cost Proposal Summary" for Contractor and each Subcontractor involved in the Extra Work. Each such form shall be completed and signed by Contractor or Subcontractor actually performing the Work activity identified on the form. Attach supporting data to each such form to substantiate the individually listed costs. The costs provided on these forms shall be used to substantiate Additional Costs shown on the Cost Proposal Summary.
3. The Contractor Fee shall be computed on the Cost of Extra Work of Contractor and each Subcontractor involved in the Extra Work; and shall constitute full compensation for all costs and expenses related to the subject change and not listed in the "Supporting Documentation for the Cost Proposal Summary," including overhead and profit.
4. Refer to Subparagraph 7.3 of the General Conditions for the method of computing the Contractor Fee.

Adjustment of the Contract Time (Include justification based upon the Contract Schedule):

_____(Days)

Refer to Article 8 of the General Conditions.

Adjustment of the Contract Sum (Total from line 18, col. 4 of Cost Proposal Summary):

\$_____

Refer to Article 7 of the General Conditions.

SUBMITTED:

(Contractor)

By: _____

Title: _____

Date: _____

RECEIVED:

(University's Representative)

By: _____

Title: _____

Date: _____

COST PROPOSAL SUMMARY

Project Name: _____

Project #: _____

Order #: _____

Contractor Name: _____

Change Request #: _____

		(1)	(2)	(3)	(4)
		Contractor	1st Tier Subs	2nd & Lower Tier Subs	Total
ACTUAL COSTS	1. Straight Time Wages/Salaries - Labor				
	2. Fringe Benefits and Payroll Taxes - Labor				
	3. Overtime Wages/Salaries - Labor				
	4. Fringe Benefits and Payroll Taxes - Overtime				
	5. Materials and Consumable Items				
	6. Sales Taxes (On line 5)				
	7. Rental Charges				
	8. Royalties				
	9. Permits				
	10. Total Direct Expense (Sum of lines 1-9)				
	11. Insurance & Bonds (Up to 2% of line 10)				
CONTRACTOR FEE	12. Sub-Sub (15% of line 10; col. 3)				
	13. Subcontractor (5% of line 10; col. 3)				
	14. Subcontractor (15% of line 10; col. 2)				
	15. Contractor (5% of line 10; col. 2 & 3)				
	16. Contractor (15% of line 10; col. 1)				
	17. Contractor Fee (Sum of lines 12-16)				
TOTAL	18. Sum of lines 10, 11, & 17; col. 4				

Actual Costs are from line 12 of the attached forms titled, "Supporting Documentation for the Cost Proposal Summary" for Contractor and each Subcontractor involved in the Extra Work.

SUPPORTING DOCUMENTATION FOR THE COST PROPOSAL SUMMARY

Project Name: _____

Project #: _____ Order #: _____

Contractor/
Subcontractor Name: _____ Change Request #: _____

Work Activity: _____

COST ITEM		COST ⁽¹⁾
ACTUAL COSTS	1. Straight Time Wages/Salaries -- Labor	
	2. Fringe Benefits and Payroll Taxes -- Labor _____ % of line 1	
	3. Overtime Wages/Salaries - Labor (Attach University Representative's written authorization)	
	4. Fringe Benefits and Payroll Taxes -- Overtime: _____ % of line 3	
	5. Materials and Consumable items	
	6. Sales Taxes: _____ % of line 5	
	7. Rental Charges (attach CalTrans Schedule)	
	8. Royalties	
	9. Permits	
	10. Total Direct Expense – sum of lines 1-9	
	11. Insurance and Bonds: _____ % of line 10 (up to 2% of line 10)	
TOTAL	12. Sum of lines 10 and 11	

_____ (Company Name)	_____ (Contractor's Company Name)
_____ (Signature) ⁽²⁾	_____ (Signature) ⁽³⁾
_____ (Title)	_____ (Title)
_____ (Date)	_____ (Date)

Notes: (1) Round off all costs to the nearest dollar.

(2) This form shall be prepared and signed by Contractor or Subcontractor actually performing the Work activity indicated above.

(3) If this form is signed by a Subcontractor, it shall be reviewed and signed by Contractor certifying the accuracy of the information.

COST PROPOSAL
(for Deductive Change Order)

Date: _____

Change Order Request No.: _____

University of California, Los Angeles

Scope of Change:

Instructions:

1. Complete this form by providing (a) all information required above, (b) the amount and justification based upon the Contract Schedule for any proposed adjustment of Contract Time, (c) the proposed adjustment of Contract Sum, (d) the attached "Cost Proposal Summary," (e) the attached form titled, "Supporting Documentation for the Cost Proposal Summary," (f) the attached form titled "Cost Breakdown for Supporting Documentation," and (g) the attached form titled "Labor Breakdown for Supporting Documentation." Items (f) and (g) listed above are optional and shall be completed as instructed by University Representative.
2. Attach the form(s) titled "Supporting Documentation for the Cost Proposal Summary"; and "Cost Breakdown for Supporting Documentation" and "Labor Breakdown for Supporting Documentation" if required by the University Representative, for Contractor and each Subcontractor involved in the Deductive Work. Each such form shall be completed and signed by Contractor or Subcontractor scheduled to perform the Work activity identified on the form. Attach supporting data to each such form to substantiate the individually listed costs. The costs provided on these forms shall be used to substantiate Costs shown on the Cost Proposal Summary.
3. The Contractor Fee shall be computed on the Cost of Deducted Work of Contractor and each Subcontractor involved in that Work; and shall constitute full compensation for all costs and expenses related to the subject change and not listed in the "Supporting Documentation for the Cost Proposal Summary," including overhead and profit.
4. Refer to Article 7.3.4.2 of the General Conditions for the method of computing the Contractor Fee.

Adjustment of the Contract Time (Include justification based upon the Contract Schedule): _____
(Days)

Refer to Article 8 of the General Conditions.

Adjustment of the Contract Sum (Total from line 18, col. 4 of Cost Proposal Summary): \$ _____

Refer to Article 7 of the General Conditions.

Submitted:

Received:

(Contractor)

(University's Representative)

By: _____
(Signature)

By: _____
(Signature)

Title: _____

Title: _____

Date: _____

Date: _____

COST PROPOSAL
(for Deductive Change Order)

COST PROPOSAL SUMMARY

Change Order Request No.: _____

Contractor Name: _____

University of California, Los Angeles

		(1) Contractor	(2) 1st Tier Subs	(3) 2nd & Lower Tier Subs	(4) Total
ACTUAL COSTS	1. Straight Time Wages/Salaries - Labor				
	2. Fringe Benefits and Payroll Taxes - Labor				
	3. Overtime Wages/Salaries - Labor				
	4. Fringe Benefits and Payroll Taxes - Overtime				
	5. Materials and Consumable Items				
	6. Sales Taxes (On line 5)				
	7. Rental Charges				
	8. Royalties				
	9. Permits				
	10. Total Direct Expense (Sum of lines 1-9)				
	11. Insurance & Bonds (shall not exceed 2% of line 10)				
CONTRACTOR FEE	12. Sub-Sub (5% of line 10; col. 3)				
	13. Subcontractor (5% of line 10; col. 3)				
	14. Contractor (5% of line 10; col. 2 & 3)				
	15. Contractor Fee (Sum of lines 12-14)				
TOTAL	16. Sum of lines 10, 11, & 15				

Actual Costs are taken from line 12 of the attached forms titled, "Supporting Documentation For the Cost Proposal Summary" for Contractor and each Subcontractor involved in the Deductive Work.

**COST PROPOSAL
(for Deductive Change Order)****SUPPORTING DOCUMENTATION FOR THE COST PROPOSAL SUMMARY**

Contractor/Subcontractor Name: _____

Change Order Request No.: _____

Work Activity: _____

University of California, Los Angeles

COST ITEM	DESCRIPTION	COST ⁽¹⁾
ACTUAL COSTS	1. Straight Time Wages/Salaries -- Labor	
	2. Fringe Benefits and Payroll Taxes -- Labor: % of line 1	
	3. Overtime Wages/Salaries -- Labor (Attach University Representative's written authorization)	
	4. Fringe Benefits and Payroll Taxes -- Overtime: % of line 3	
	5. Materials and Consumable items	
	6. Sales Taxes: % of line 5	
	7. Rental Charges (attach Caltrans' Schedule)	
	8. Royalties	
	9. Permits	
	10. Total Direct Expense -- sum of lines 1-9	
TOTAL	12. Sum of line 10	

(Company Name)_____
(Contractor's Company Name)_____
(Signature) ⁽²⁾_____
(Signature) ⁽³⁾_____
(Title)_____
(Title)_____
(Date)_____
(Date)

Notes:

(1) Round off all costs to the nearest dollar.

(2) This form shall be prepared and signed by Contractor or Subcontractor that was to perform the Work activity indicated above.

(3) If this form is signed by a Subcontractor, it shall be reviewed and signed by Contractor certifying the accuracy of the information.

COST PROPOSAL (for Deductive Change Order)

COST BREAKDOWN FOR SUPPORTING DOCUMENTATION

(This form is optional unless requested by the University Representative)

COST BREAKDOWN FOR SUPPORTING DOCUMENTATION												
Change Order Request No. _____						JOB/CONTRACT NOS.: _____						
CONTRACTOR OR SUBCONTRACTOR NAME: _____												
DATE: _____												
ITEM NO.	DESCRIPTION	MATERIAL			LABOR			EQUIPMENT			TOTAL COST	
		AMT	UNIT COST	COST	HRS	LABOR RATE*	COST	HRS	EQ RATE	COST	ADD	DEDUCT
											PROPOSED COST	ORIG. BID COST
	Sales Tax											
	Total Cost											
TOTAL NET COST (sum of Total Cost column)												

COST PROPOSAL
(for Deductive Change Order)

LABOR RATE BREAKDOWN for SUPPORTING DOCUMENTATION
(This form is optional unless requested by the University Representative)

CONTRACTOR/SUBCONTRACTOR _____ Date: _____

(1) \$ _____ BASIC HOURLY RATE for _____ CRAFT

Prevailing Wage Employer Payments

_____ HEALTH AND WELFARE

_____ PENSION

_____ VACATION/HOLIDAY

_____ TRAINING

(2) \$ _____ Subtotal - Employer Payments

Labor Burden paid by Employer.

_____ WORKERS COMP INSURANCE

_____ STATE UNEMPLOYMENT (SUI)

_____ FED UNEMPLOYMENT (FUI)

_____ SOCIAL SECURITY (FICA)

_____ MEDICARE (FMI)

(3) \$ _____ Subtotal - Burden

\$ _____ TOTAL LINES 1 +2 +3

I certify the above information is true and correct.

Signed: _____

FIELD ORDER

FIELD ORDER NO. _____

Project Name: _____

Project Number: _____ Contract Date: _____

To Contractor: _____

Address: _____

DESCRIPTION OF WORK:

Estimated Adjustment
of Contract Sum: \$ _____

Estimated Adjustment
of Contract Time: _____ Days

(Name of University's Representative - typed or printed)

(Signature)

(Title)

(Date)

(Name of University's Designated Administrator -
typed or printed)

(Signature)

(Title)

(Date)

Note: If the Work described above constitutes a change, this Field Order will be superseded by a Change Order that will include the scope of the change in the Work and any actual adjustments of the Contract Sum and the Contract Time.

CHANGE ORDER

CHANGE
ORDER NO. _____

Reference Field Order #: _____

Project Name: _____

Project Number: _____ Contract Date: _____

To Contractor: _____

Address: _____

DESCRIPTION OF CHANGE:

Adjustment of Contract Sum:

Original Contract Sum: \$ _____

Prior Adjustments: \$ _____

Contract Sum Prior to this Change: \$ _____

Adjustment for this Change: \$ _____

Revised Contract Sum: \$ _____

Adjustment of Contract Time:

Original Contract Time: _____ days

Prior Adjustments: _____ days

Contract Time Prior to this Change: _____ days

Adjustment for this Change: _____ days

Revised Contract Time: _____ days

Contractor waives any claim for further adjustments of the Contract Sum and the Contract Time related to the above described change in the Work.

Recommended:

(Signature of University's Representative)

(Printed Name)

(Date)

Accepted:

(Name of Contractor - typed or printed)

(Signature)

(Printed Name & Title)

(Date)

Reviewed and Recommended:

(Signature of University's Designated Administrator)

(Printed Name)

(Date)

Funds Sufficient:

(Signature of University's Accounting Office)

(Printed Name)

(Date)

Approved:

UNIVERSITY: THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA

By: _____
(Signature)

(Printed Name and Title)

Date: _____

CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

NOTICE:

THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:
Date(s) of waiver and release: _____
Amount(s) of unpaid progress payment(s): \$ _____
- (4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

NOTICE:

THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following: Disputed claims for extras in the amount of:

\$ _____.

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

UNCONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

NOTICE TO CLAIMANT:

UNCONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has received the following progress payment:
\$_____.

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

UNCONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

NOTICE:

THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions

This document does not affect any of the following: Disputed claims for extras in the amount of:

\$ _____.

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

This document summarizes the Builder's Risk policy and is not intended to reflect all the terms, conditions, or exclusions of such policy as of the effective date of coverage. This document is not an insurance policy and does not amend, alter or extend the coverage afforded by the listed policy. The actual insurance policy defines all the terms, exclusions and conditions of coverage, and not this summary. Should any ambiguities or conflicts between the summary and policy exist, the policy terms and conditions will apply.

*Some projects may be excluded and/or must be underwritten separately and may be subject to different rates, deductibles, and terms and conditions (see end of summary). **Therefore, this document should be used as a guideline only.***

INSURANCE COMPANY: Liberty Mutual Fire Insurance Company

BEST'S RATING: A XV

NAMED INSURED: Regents of the University of California

INSURING AGREEMENT

This Policy, subject to the Limit of Liability and the terms, conditions, and limitations contained herein or endorsed hereon, insures against all risks of direct physical loss or damage to Covered Property while at the construction site, stored off-site, or in the course of transit within this policy's territory and occurring during the period of insurance of this policy.

LIMITS OF LIABILITY

SCHEDULE OF LIMITS

This Company shall not be liable for more than the Limit of Liability, as stated in Confirmation of Coverage, in any one Occurrence for any one Insured Project, subject to the following limits and sublimits:

MASTER POLICY LIMITS, BY CONSTRUCTION CLASS

\$150,000,000 per project, per occurrence; except,
\$ 15,000,000 per project, Joisted Masonry construction
\$ 10,000,000 per project, Wood Frame construction

NOTE: *The total estimated construction cost is estimated through project completion and reported on the original Builder's Risk Insurance Application. This Limit of Liability will correspond with the total estimated construction cost as shown on the original Builder's Risk Insurance Application. If the construction costs should increase, the Limit of Liability should be subsequently increased, once advance notice has been given to Alliant Insurance Services, Inc. by the University's representative.*

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

KEY SUBLIMITS (Per Occurrence unless otherwise stated):

1. \$10,000,000 for **Wood Frame Construction**
2. \$15,000,000 for **Joisted Masonry Construction**
3. \$25,000,000 as respects **Demolition and Increased Cost of Construction**
4. \$5,000,000 as respects **Expediting Expense, Contractor's Extra Expense**, General Conditions Expense / \$500,000 Owner's Extra Expense / \$100,000 Infrastructure Extra Expense
5. \$10,000,000 as respects **Temporary Offsite Location** (per location)
6. \$10,000,000 as respects **Transit** (Inland only)
7. \$15,000,000 as respects **Debris Removal**
8. \$1,000,000 as respects **Construction Documentation, Valuable Papers and Records**
9. \$5,000,000 as respects **Design Professional Fees**
10. \$1,000,000 as respects **Claims Preparation Expenses**
11. \$1,000,000 as respects **Crane Re-Erection Expense**
12. \$500,000 as respects **Scaffolding, Forms and Falsework Re-Erection Expense**
13. \$500,000 as respects **Pollution Cleanup and Decontamination** (Per project aggregate)
14. \$750,000 as respects **Fire Protection Equipment Refills**
15. \$500,000 as respects **Governmental Authority Protection Services**
16. \$500,000 as respects **Fungus, Wet Rot, Dry Rot or Bacteria**
17. \$2,000,000 as respects **Preservation of Property Protection Expense – 30 Days**
18. \$50,000 as respects **Reward Payment**
19. Included for 30 Days as respects **Hot Testing**
20. No sublimit as respects **Off Premises Service Interruption – Direct Damage**
21. No Sublimit as respects **Green/LEED Rating System**
22. No Sublimit for **Landscaping Materials**
23. No Sublimit as respects **Water Damage (Includes Frost, Freeze, Falling of Ice)**

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

TERMS AND CONDITIONS

NAMED INSURED

The Regents of the University of California and all affiliated and subsidiary companies, corporations, ventures, partnerships or other organizations, all owned, controlled or managed by the Named Insured and all as now exist or may hereafter be constituted or acquired.

ADDITIONAL INSUREDS

Except noted above, this Policy recognizes owners, contractors, subcontractors of any tier, architects, engineers, and any other individual or entity, all as required by contract documents or subcontract documents executed with respect to the insured project prior to the date of loss or damage to covered property as an Additional Insured, and then only as to their respective financial interest in the coverage property.

Notwithstanding the foregoing sentence, architects, engineers, manufacturers and suppliers shall only be Additional Insureds with respect to their activities at the insured project location.

ATTACHMENT/TERMINATION

Insurance hereunder applies to all projects specifically declared under the Master Policy in a Quarterly Report Endorsement, where the project is scheduled to begin during the term of the Master Policy. The Master Policy term commences on September 1, 2023 at 12:01 AM and ends on September 1, 2025 at 12:01 AM

Coverage for each Insured Project declared under the Master Policy will go into effect and continue in full force and effect during the Coverage Period specified in the Confirmation of Coverage.

NOTIFICATION OF COVERAGE/TERMINATION: *The Confirmation of Coverage period will correspond with the earliest estimated Notice to Proceed date for any construction phase and estimated Notice of Final Completion date as indicated on the original Builder's Risk Insurance Application. If construction is not completed on time and coverage beyond the previously reported estimated Notice of Final Completion date is required, prior notification must be given to Alliant Insurance Services, Inc. by the University Representative in order to ensure that coverage remains in force for the project.*

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

DEDUCTIBLES

(Basis for determining deductible is the total project contract value for all construction phases, estimated through project completion.)

Deductible	All Other Perils	Water Damage
\$10,000	• Fire Resistive, Non-Combustible-NOC, Masonry Non- Combustible projects ≤\$25,000,000 • Joisted Masonry projects ≤\$15,000,000 • Wood Frame projects ≤\$2,000,000 • All JOC's	• All JOC's
\$25,000	• Wood Frame projects ≤\$2,000,000 • Fire Resistive, Non-Combustible-NOC, Masonry Non- Combustible including cleanrooms ISO class 5-9 projects >\$25,000,000 and ≤\$150,000,000	N/A
\$50,000	• Wood Frame projects <\$2,000,000 and ≤\$10,000,000 • All Site Work Only (Outdoor Infrastructure / Utility / Hardscape / Landscape) projects	• Fire Resistive, Non-Combustible-NOC, Masonry Non- Combustible projects >\$5,000,000 and ≤\$25,000,000
\$100,000	N/A	• Fire Resistive, Non-Combustible-NOC, Masonry Non- Combustible including cleanrooms ISO class 5-9 projects >\$25,000,000 and ≤\$50,000,000 • Wood Frame projects ≤\$10,000,000 • Joisted Masonry projects ≤\$15,000,000 • All Site Work Only (Outdoor Infrastructure / Utility / Hardscape / Landscape) projects • Hot testing (applicable for projects ≤\$100M only) have a 30 day waiting period and a \$100,000 deductible

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

\$150,000	N/A	• Fire Resistive, Non-Combustible-NOC, Masonry Non- Combustible including cleanrooms ISO class 5-9 projects >\$50,000,000 and ≤\$150,000,000
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NOTE: *The contractor shall be responsible for the deductibles.*

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

KEY EXCLUSIONS

KEY PROPERTY NOT COVERED

Covered property does not include:

1. Land and land values and the value of cut, fill and backfill materials existing at the location of the insured project prior to project commencement. However, the following are covered to the extent identified in the contract documents and included in the Total Project Value:
 - Fill and backfill materials purchased for use in the completion of the insured project; and
 - Labor and material charges incurred to excavate land and to move, remove, place or otherwise handle cut, fill and backfill materials, whether such materials are insured or uninsured.
2. Any part of contractor's equipment including, tools, machinery, hoists, jacks, lifts, cranes or property of similar kind not intended to become a permanent part of the insured project;
3. Vehicles and equipment licensed for highway use, rolling stock, aircraft or watercraft;
4. Water, other than water that is contained within any enclosed tank, piping system, or any other processing equipment; standing timber including undisturbed natural wooded areas; growing crops; or animals;
5. Accounts, bills, currency, stamps, evidence of debts, checks, money, securities, precious metals, precious stones or other property of a similar nature;
6. Existing real property;
7. Property at a project site that stores, processes, handles or makes use of radioactive materials; however, this does not apply to project site making use of radioactive isotopes contained within equipment used for diagnostic or testing purposes;
8. Roadways, sidewalks or other paved or concrete surfaces at the project site that existed prior to the beginning of the Insured project;
9. Contraband or property in the course of illegal transportation or trade; or
10. Overhead transmission, distribution or communications lines, and their supporting structures, except to the extent identified in the contract documents and included in the total estimated construction cost.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
Master Builder's Risk Program
Coverage Summary

KEY EXCLUDED CAUSES OF LOSS

1. This policy will not pay for loss or damage caused directly or indirectly by any of the following. Such loss or damage is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the loss or damage, even if such other cause or event would otherwise be covered. These exclusions apply whether or not the loss event results in widespread damage or affects a substantial area:

a. Governmental Action

Seizure, confiscation, expropriation, nationalization or destruction of property by order of governmental authority.

This exclusion does not apply to seizure or destruction of property by order of governmental authority taken at the time of a fire to prevent its spread.

b. Nuclear Hazard

Nuclear reaction or radiation, or radioactive contamination, however caused, except as provided under Section E., Coverage Extensions, Radioactive Contamination. But if Nuclear reaction or radiation, or radioactive contamination results in fire, this policy will pay for the direct loss or damage caused by that fire.

c. Ordinance or Law

(1) The enforcement of or compliance with any ordinance or law:

- (a) Regulating the construction, use or repair of any property; or
- (b) Requiring the tearing down of any property, including the cost of removing its debris.

(2) This exclusion applies whether the loss or damage results from:

- (a) An ordinance or law that is enforced even if the property has not been damage; or
- (b) The increased costs incurred to comply with an ordinance or law in the course of construction, repair, renovation, remodeling or demolition of property, or removal of its debris, following a physical loss to that property.

This exclusion applies, except as provided under Section E., Coverage Extension, Ordinance or Law.

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d. War and Military Action

War and military action, meaning:

- (1) War, including undeclared or civil war;
- (2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign, or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority by hindering or defending against any of these.

2. We will not pay for:

a. Consequential Loss

Loss, damage, cost or expense caused by, resulting from, or attributable to any of the following:

- (1) Loss of market or loss of use;
- (2) Liquidated damages, performances penalties or penalties for non-completion, except as provided under Section E., Coverage Extensions, Contract Penalties;
- (3) Non-Compliance with contract conditions;
- (4) Delay in completion of construction, except as provided under Time Element coverage, if endorsed to this Policy; or
- (5) Re-Sequencing or inefficiencies of construction activities.

b. Cracking and Settling

Loss or damage caused by, resulting from or attributable to normal or expected subsidence, settling, cracking, expansion, contraction or shrinkage of walls, floors, ceilings, buildings, foundations, patios, walkways, driveways or pavements.

But if loss or damage caused by a covered cause of loss results, we will pay for the resulting loss or damage caused by that covered cause of loss.

c. Disappearance or Shortage

Missing property when the only proof of loss is unexplained or mysterious disappearance of covered property, or shortage of property discovered on taking inventory, or any other instance where there is no physical evidence to show what happened to the covered property. This exclusion does not apply to covered property in the custody of a carrier for hire.

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d. Dishonest Acts

Loss or damage caused by or resulting from fraudulent, dishonest or criminal acts of any Insured or any of the Insured's partners, officers, directors, trustees, managers, employees (including leased or temporary employees) or others to whom the property is entrusted, except as provided under Section E., Coverage Extensions, Dishonest Acts.

This exclusion does not apply to:

- (1) Acts of destruction committed by the Insured's employees (including leased or temporary employees); or
- (2) Covered property in the custody of any carrier for hire or anyone claiming to be a carrier for hire at the time the property is entrusted to them.

This exclusion applies whether or not such persons are acting alone or in collusion with other persons, or whether such acts occur during the hours of employment.

e. Electronic Vandalism, Defects or Errors

Loss or damage to electronic hardware, software, programs or data caused by or resulting from:

- (1) Computer virus;
- (2) Willful or malicious electronic alteration, manipulation, tampering, or destruction by authorized or unauthorized users;
- (3) Failure, malfunction, deficiency, deletion, errors, or omissions in:
 - (a) Programming;
 - (b) Instructions to a machine; or
 - (c) Installation or maintenance of electronic hardware; or
- (4) Mysterious disappearance of code;

Except as provided by Section E. Coverage Extensions, Electronic Vandalism.

But if loss or damage caused by a specified cause of loss results, this policy will pay for the resulting loss or damage caused by that specified cause of loss.

f. Expected, Preventable or Accumulated Losses

Loss or damage caused by or resulting from wear and tear, deterioration, inherent vice, hidden or latent defect, corrosion, rust or dampness or dryness of the atmosphere.

But if loss or damage caused by a covered cause of loss results, this policy will pay for the resulting loss or damage caused by that covered cause of loss.

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g. Faulty, Inadequate or Defective Workmanship or Design

Loss, damage, cost or expense caused by or resulting from faulty, inadequate or defective:

- (1) Planning, zoning, development, surveying, siting;
- (2) Design, specifications, workmanship, repair, construction, renovation, remodeling, grading or compaction;
- (3) Materials used in repair, construction, renovation, remodeling, grading or compaction; or
- (4) Maintenance;

Of part or all of any property on or off the project site described in the Declarations.

But if loss or damage caused by a covered cause of loss results, this policy will pay for the resulting loss or damage caused by that covered cause of loss. However, in no event this policy will pay for the covered property that was faulty or defective; the costs or expense to improve or redesign the original materials; supplies, designs, plans or specifications; or to improve workmanship.

The mere existence of any faulty, inadequate or defective conditions listed in paragraphs g. (1). Through g. (4)., above is not direct physical loss or damage.

h. Fines or Penalties

Fines or penalties imposed on the Insured at the order of any government agency, court or other authority.

i. Fungus, Wet Rot, Dry Rot or Bacteria

Loss or damage consisting of, directly or indirectly caused by, contributed to or aggravated by the presence, growth, proliferation, spread or any activity of fungus, wet rot, dry rot or bacteria, including any expense to remediate the presence or effects of any of the foregoing.

But if Fungus, wet or dry or bacteria result in a covered cause of loss, this policy will pay for the loss or damage caused by that covered cause of loss.

This exclusion does not apply:

- (1) When fungus, wet or dry rot or bacteria result from fire or lightning; or
- (2) To the extent that coverage is provided under Section E., Coverage Extensions, Fungus, Wet Rot, Dry Rot or Bacteria, with respect to loss or damage by a cause of loss other than fire or lightning.

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j. Pollutants

Loss, damage, cost or expense caused by or resulting from the actual, alleged or threatened discharge, dispersal, seepage, migration, release, or escape of pollutants, unless the discharge, dispersal, seepage, migration, release, or escape is directly caused by a specified cause of loss.

But if the discharge, dispersal, seepage, migration, release, or escape of pollutants results in a specified cause of loss, this policy will pay for the loss or damage caused by that specified cause of loss.

This policy will also not pay for loss, damage, cost or expense arising out of any request, demand, order or statutory or regulatory requirement that requires any Insured or others to test for, monitor, cleanup, remove, contain, treat, detoxify, or neutralize, or in any way respond to, or assess the effects of pollutants.

k. Landscaping Materials

Insurance Company will not pay for direct physical loss or damage to landscaping materials caused by or resulting from:

- a. Infestation, disease, freezing, drought, lack of moisture, hail or weight of ice or snow; or
- b. Insects, vermin, rodents or animals.

l. Terrorism: Coverage has not been endorsed to this policy.

m. Damage to Existing Property: Coverage has not been endorsed to this policy.

n. Delay in Completion: Coverage has not been endorsed to this policy.

o. Earth Movement – Coverage has not been endorsed to this policy.

p. Flood – Coverage has not been endorsed to this policy.

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SELECT EXTENSIONS OF COVERAGE

1. Expediting and Contractor's Extra Expense

- a. In the event of direct physical loss or damage to covered property caused by or resulting from a covered cause of loss, this Company will pay for the reasonable and necessary:

(1) Expediting expenses, including:

- (a) Wages for overtime, night work, and work on public holidays;
- (b) Extra costs of express freight or other rapid means of transportation; and
- (c) Extra costs of rental equipment;

Which are necessary to make temporary repairs or to expedite the permanent repair or replacement of the covered property sustaining such loss or damage;

(2) Owner's Extra Expense; and

- (3) Contractor's extra expense and general conditions expense in excess of the total expense that would normally have been incurred during the period of time required to repair or replace covered property with reasonable speed and similar quality for the purpose of continuing the scheduled progress of undamaged work, and only to the extent such expenses are necessary to continue as nearly as practicable the normal operation of the work in progress.

2. Demolition and Increased Cost of Construction

- a. In the event of direct physical loss or damage caused by a covered cause of loss to a building or structure that is covered property, the Company will pay for the:

- (1) Cost to demolish and clear the project site of the undamaged portion of the constructed, erected or installed covered property as a consequence of a requirement to comply with an ordinance or law that required demolition of such undamaged property;
- (2) Cost for recycling debris from the undamaged portion of the constructed, erected or installed covered property at a recycling facility, including the associated transportation costs, when those costs are incurred as a result of the demolition of the undamaged portion of the constructed, erected or installed covered property as a consequence of a requirement to comply with an ordinance or law that requires demolition of such undamaged property;
- (3) Increase costs incurred by the Insured to repair, rebuild or replace the damaged and undamaged portions of that covered property for the same intended use as per the written contract in place at the time of direct physical loss or damage when the increased cost is a consequence of a requirement to comply with the minimum standards of an ordinance or law; and

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- (4) Loss to the undamaged portion of the constructed, erected or installed covered property as a consequence of a requirement to comply with an ordinance or law that requires demolition of undamaged parts of the same building.

Any income generated from debris recycling will reduce the Company loss payment.

- b. We will not pay under this Ordinance or Law Coverage Extension for:

- (1) Costs associated with the enforcement of any ordinance or law which required any Insured or others to test for, monitor, clean up, remove, contain, treat, detoxify, or neutralize, or in any way respond to, or assess the effects of, pollutants, fungus, wet rot, dry rot or bacteria;
- (2) Enforcement of any ordinance or law which required the demolition, repair, replacement, reconstruction, remodeling, or remediation of property due to contamination by pollutants or due to the presence, growth, proliferation, spread or any activity of fungus, wet rot, dry rot or bacteria; or
- (3) Costs to comply with any ordinance or law that was required to be complied with in the absence of the loss or damage.

3. Preservation of Property Protection Expense

- a. If in the event of actual or imminent physical loss or damage to covered property caused by a covered cause of loss, this policy will pay for the reasonable and necessary expenses incurred by the Insured to protect the covered property by:
 - (1) Removing it from the project site or a temporary offsite location;
 - (2) Storing it away from the project site or a temporary offsite location for up to the number of days shown in the Builder's Risk Coverage Extensions Supplemental Declarations from the date it was first moved; and
 - (3) Returning it to the project site or temporary offsite location after the threat of actual or imminent loss or damage has passed.
- b. This policy will reimburse the Insured for the reasonable and necessary expenses to protect covered property at the project site or temporary offsite location from actual or imminent physical loss or damage from fire, named storm or flood that has been forecast by the National Weather Service or the U.S. Army Corps of Engineers, but only if coverage is provided under this Policy for that cause of loss.

The Insured must keep a record of the expenses incurred.

No Deductible applies to this Coverage Extension.

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4. Construction Documentation, Valuable Papers and Records

Subject to the stated sublimit, this Policy is extended to cover direct physical loss or damage to construction documentation, valuable papers, and records caused by a covered cause of loss.

This Company will value construction documentation, valuable papers, and records at the full cost necessary to research and reproduce the lost construction documentation, valuable papers, and records, plus the cost of the blank materials on which it resides. However, this company will only pay for costs of research and reproduction if the Insured reproduces the construction documentation, valuable papers, and records.

5. Crane Re-Erection Expense

If a tower or pole crane is lost or damaged by a covered cause of loss at the project site, this policy will pay the reasonable and necessary costs incurred by the Insured to re-erect a tower or pole crane necessary to complete the insured project. However, this policy will not cover any loss or damage to the tower or pole crane itself, unless such tower or pole crane is scheduled on a Contractor's Equipment Coverage endorsement, attached to this Policy.

6. Scaffolding, Forms or Falsework Re-Erection Expense

If scaffolding, forms or falsework covered under this policy is lost or damaged by a covered cause of loss at the project site, the Insurance Company will pay the reasonable and necessary costs incurred by the insured to re-erect scaffolding, forms or falsework necessary to complete the insured project.

7. Debris Removal

Subject to the Sublimit of Liability, in the event of direct physical loss or damage by a covered cause of loss occurs to covered property, this policy will pay:

- a. The cost the Insured incurs to demolish, clear and remove debris of covered property, including such property while in transit or at a temporary offsite location; and
- b. The reasonable and necessary expense incurred by the Insured for:
 - (1) Recycling debris of covered property at a recycling facility, including the associated transportation costs; and
 - (2) Removing debris of uncovered property from the project site.

The expenses will be paid only if reported to the Company in writing within three hundred sixty-five (365) days of the date of loss or damage.

Any income generated from debris recycling will reduce the Company loss payment

In no event will there be coverage under this Debris Removal Coverage Extension for any costs to:

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- (1) Extract pollutants from land, water or debris;
- (2) Remove, restore, or replace polluted land or water; or
- (3) Transport, store, decontaminate or recycle contaminated debris.

8. Design Professional Fees

Subject to the stated sublimit, this policy will reimburse the first Named Insured for reasonable and necessary expenses incurred for design professional services to repair, rebuild or replace the lost or damage covered property to the original design, if it has been damaged by a covered cause of loss.

9. Claims Preparation Expense

This Company will reimburse you for the reasonable and necessary claim preparation expenses you incur in preparing claim information, when it's required, for the purpose of determining the amount of loss or damage prior to finalizing a claim adjustment.

- a. Claim preparation expense means the expenses incurred by the Insured for only the following:
 - (1) The Insured's employees to produce or certify any particulars or details contained within the Insured's books or documents, or such other proofs, information or evidence required by us;
 - (2) Taking inventory, conducting independent appraisals, or gathering and preparing other data to substantiate the amount of loss or damage; and
 - (3) Services provided by accountants, auditors, contractors, architects and engineers or other professionals solely for the purpose of determining the amount of loss or damage.
- b. Claim preparation expense does not mean the expenses incurred for:
 - (1) Negotiating or presenting any claim that we have disputed or denied;
 - (2) Attorneys, public adjusters, loss appraisers or loss consultants or their affiliates;
 - (3) Examinations under oath, even if requested by this Company
 - (4) Travel; or
 - (5) Insurance brokers or insurance agents, or their affiliates, without our written consent prior to such expenses being incurred.

This Coverage extension does not apply until a claim for covered loss or damage to covered property has been submitted to and accepted by the Insurance Company. In the event that the amount of covered loss or damage does not exceed the applicable Deductible, no coverage will apply under this Coverage Extension.

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10. Fungus, Wet Rot, Dry Rot or Bacteria

If fungus, wet rot, dry rot or bacteria is caused by or results from a covered cause of loss, other than fire or lightning, this Company will pay for:

- a. Direct physical loss or damage to covered property at the project site or a temporary offsite location caused by or resulting from fungus, wet rot, dry rot or bacteria, including the cost of removal of the fungus, wet rot, dry rot or bacteria; and
- b. The reasonable and necessary expenses to:
 - (1) Test for, monitor or assess the existence, concentration or effects of fungus, wet rot, dry rot or bacteria;
 - (2) Tear out and replace any part of covered property needed to gain access to the fungus, wet rot, dry rot or bacteria; and
 - (3) Clean up, remove or remediate fungus, wet rot, dry rot or bacteria.

The coverage described in paragraphs 9.a and 9.b, of this Coverage Extension only applies if the Insured takes all reasonable steps to save and preserve property from further loss or damage at the time of, and after the discovery of the fungus, wet rot, dry rot or bacteria.

If there is covered loss or damage to covered property, not caused by fungus, wet rot, dry rot or bacteria loss payment will not be limited by the terms of this Coverage Extension, except to the extent that fungus, wet rot, dry rot or bacteria, causes an increase in the loss. Any such increase in the loss will be subject to the terms of this Coverage Extension. The most this Company will pay under this Coverage Extension is the Sub-Limit of Liability shown for Fungus, Wet Rot, Dry Rot or Bacteria. This is the most we will pay for the total of all loss or damage under this Coverage Extension, even if the fungus, wet rot, dry rot or bacteria continues to be present or active, or recurs, in a later Policy Term.

11. Governmental Authority Protection Service Charges

When the fire department, policy department or other governmental authority is called to save or protect covered property from a covered cause of loss at the project site or a temporary offsite location, this policy will pay the Insured's liability for service charges assessed that are:

- A. Assumed by written contract or written agreement prior to loss or damage; or
- B. Required by local ordinance, law or statute.

This policy will also pay for those costs incurred by the Insured's fire brigade to save or protect covered property from fire, but not including the costs to refill fire protective equipment.

The most this policy will pay for this Coverage Extension in any one occurrence, regardless of the number of responding departments or authorities or number of services performed, is the Sub-Limit of Liability shown for Government Authority Protection Service Charges.

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No Deductible applies to this Coverage Extension.

12. Fire Protection Equipment Refills

Insurance Company will pay the reasonable and necessary costs the Insured incurs to refill fire protection equipment which has been discharged accidentally or in the course of saving or protecting covered property from a covered cause of loss.

13. Pollutant Clean-Up and Decontamination

- a. This policy will pay the reasonable and necessary costs incurred by you to extract pollutants from land or water at the project site or a temporary offsite location if the discharge, dispersal, seepage, migration, release or escape of pollutants is directly caused by a covered cause of loss.
- b. When required by ordinance, law or regulation in effect at the time of loss or damage, this policy will pay the reasonable and necessary costs incurred by you to extract pollutants from debris at the project site or a temporary offsite location if the discharge, dispersal, seepage, migration, release or escape of pollutants is directly caused by a covered cause of loss.
- c. When paragraph a. above applies, this policy will also pay the Insured's reasonable and necessary costs incurred for:
 - (1) Restoring or replacing that contaminated land or water; and
 - (2) Testing performed in the course of extracting those pollutants from the land or water.
- d. When paragraph b. above applies, this policy will also pay the Insured's reasonable and necessary costs incurred for transporting that contaminated debris to a temporary storage or decontamination facility.

These costs will be paid only if they are reported to the Insurance Company in writing within one hundred eighty (180) days of the date on which the covered cause of loss occurs.

This Coverage Extension does not apply to any other costs to test for, monitor or assess the existence, concentration or effects of pollutants.

14. Prevention of Access

Civil Authority / Ingress or Egress

The Insurance Company will pay for the reasonable and necessary contractor's extra expense, owner's extra expense and general conditions expense incurred by the insured, in excess of the total expense that would normally have been incurred during the same period of time had no loss or damage occurred, for the purpose of continuing the scheduled progress of undamaged work, but only to the extent such expenses are necessary to continue as nearly as practicable the normal operation of the work in progress.

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Civil Authority

When an order of civil authority restricts or prohibits access to the project site in response to direct physical loss or damage caused by a covered cause of loss to property not insured under this policy and located within 2-miles of the project site. Coverage begins 72-hours after the time of direct physical loss or damaged caused by a covered cause of loss.

Ingress or Egress Coverage

When ingress or egress to the project site by suppliers, contractors, or employees is physically obstructed due to direct physical loss or damage caused by a covered cause of loss to property not insured under this policy and located within 2-miles of the project site. Coverage begins 72-hours after the time of direct physical loss or damaged caused by a covered cause of loss.

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SELECTED GENERAL CONDITIONS

1. REQUIREMENTS IN CASE OF LOSS

In the event of loss or damage to Insured Property the Insured shall:

- A. Notify the police if a law may have been broken
- B. Give Insurance Company prompt notice of the loss or damage. Include a description of the property involved.
- C. As soon as possible, give the Insurance Company a description of how, when and where the loss or damage occurred.
- D. Take all reasonable steps to protect the Covered Property from further damage.
- E. Not voluntarily make a payment, assume any obligation, or incur any expense without our consent.
- F. Permit the Insurance Company to inspect the property.
- G. Submit to examinations under oath about any matter relating to this insurance of the claim.
- H. Send the Insurance Company a signed, sworn proof of loss containing the information they request to settle the claim, within 60-days after the Insurance Company's request.
- I. Immediately send the Insurance Company copies of any demands, notices, summonses or legal papers received in connection with the claim or suit.
- J. Cooperate with the Insurance Company in the investigation or settlement of the claim.

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2. VALUATION

1. Except as provided in paragraphs 2., 3., and 4., below, the cost to repair, rebuild or replace covered property by the Insured as the time of direct physical loss or damage will be based on the following:
 - A. Direct payroll cost for labor directly chargeable and related to the repair, rebuild or replacement of the damaged covered property;
 - B. Contractors' profit, overhead charges and construction management fees as included in the original contract, or in any subsequent change order contract, as applicable;
 - C. Expenses for the dismantling, transportation and reassembly of damaged covered property;
 - D. General conditions expense; and
 - E. Property under construction at the Insured's cost.

For a green building, the valuation will include applicable green standards in force at the time of loss or damage in the cost to repair, rebuild or replace the lost or damaged green building. If applicable green standards, or equivalent standards, are not available, this policy will replace the lost or damaged green building with construction materials and equipment of like kind and quality.

2. Property under construction owned by others at the lesser of the following:
 - a. The cost to repair, rebuild or replace property under construction at the time of direct physical loss or damage with materials of like kind and quality; or
 - b. The amount the Insured is legally obligated to pay for direct physical loss or damage by reason of the Insured's assumption of liability for such loss or damage in written agreement executed prior to the loss or damage of that property.
3. Property under construction owned by the Insured that was refurbished, reconditioned or recertified, at the lesser of the cost to repair or replace the property under construction or the price which that property might be expected to realize if offered for sale in a fair market on the date of loss or damage.
4. Landscaping materials at the cost to repair or replace landscaping materials at the time of direct physical loss or damage with readily available commercial nursery stock.
5. Office contents, other than the contents of construction trailers, at a temporary offsite location, at the cost to repair or replace the covered property at the time of direct physical loss or damage with similar property intended to perform the same function. Office contents not replaced will be valued at actual cash value, at the time and place of loss or damage.

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Insurance provided for office contents while at a temporary offsite location, is excess over any other valid and collectible insurance available to the owner of such property.

6. Property in transit at the invoice cost of the lost or damage covered property plus accrued shipping charges less shipper's liability, if any.

3. INCREASED HAZARD

If the circumstances in which this insurance was entered into are altered, or if the risk materially increases, the Insured shall give notice in writing to the Insurance Company within thirty (30) days of the Insured's knowledge of the same.

4. OTHER INSURANCE

1. This insurance is primary, except when paragraphs 2., 3., or 4, below apply.
2. This insurance is excess over any underlying insurance, including any insurance that you purchased for all or any part of a Deductible in this Policy. The existence of underlying insurance shall not prejudice the Insured's rights under this Policy. The Deductible and any amount paid under such underlying insurance will apply to the applicable Deductible under this policy.
3. To the extent others are responsible for loss of or damage to covered property while in transit under terms Free on Board, this insurance will be excess insurance and will not contribute with such other insurance.
4. If there is other insurance, whether purchased by the Insured or others, subject to the same plan, terms, conditions and provisions as the insurance provided under this Policy, the Company will pay their share of the covered loss or damage. The company share is the proportion that the applicable Limit of Liability or Sub-Limit of Liability under this Policy bears to the sum of all the Limits of Liability or Sub-Limits of Liability covering on the same basis.

Insured can purchase excess insurance commencing on or after the inception of this Policy that is specifically excess over the Limit of Liability or Sub-Limits of Liability under this policy without prejudice to this Policy. The existence of such insurance shall not reduce any liability under this policy.

5. PERMISSION TO OCCUPY IS GRANTED

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SELECTED DEFINITIONS

The following terms have been defined in the policy – the policy definitions will be applied in the event of a loss.

1. FLOOD:

Flood means:

- (1) Surface waters; rising waters; storm surge; wave wash; waves; tsunami; tide or tidal water; the release of water, the rising, overflowing or breaking of boundaries of natural or man-made bodies of water; or the spray therefrom; all whether driven by wind or not;
- (2) Water or other material that backs up or overflows from any sewer, septic tank, sump or drain resulting *from any of the foregoing*; or
- (3) Mudslide or mudflow caused by or resulting from surface water, runoff or accumulation of water on or under the ground;

Regardless of any other cause or event, whether natural or man-made, contributing concurrently or in any other sequence of loss.

Loss or damage from flood associated with a storm or weather disturbance whether or not identified by name by any meteorological authority is considered to be flood within the terms of this Policy. However, physical loss or damage, from fire, explosion, theft or sprinkler leakage caused by flood will not be considered to be loss by flood within the terms and conditions of this Policy.

2. POLLUTANTS:

Pollutants means any solid, liquid, gaseous or thermal irritant or contaminant, including but not limited to, lead, asbestos, PCB's, petroleum products, silica, smoke, vapor, soot, fumes, acids, alkalis, chemicals, and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

3. EARTH MOVEMENT:

- a. Earth movement means earthquake, landslide, subsidence or earth sinking (other than sinkhole collapse), rising or shifting of the earth, avalanche, whether natural or man-made, or volcanic eruption; regardless of any other cause or event contributing concurrently or in any other sequence of loss.

However, physical loss or damage, from fire, explosion, theft, sprinkler leakage, or flood caused by earth movement will not be considered to be loss by earth movement within the terms and conditions of this Policy.

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4. OCCURRENCE:

Means all loss or damage attributable directly or indirectly to one (1) cause or series of similar causes. All such loss or damage will be added together and the total loss or damage will be treated as one (1) occurrence.

Unless otherwise amended by an endorsement attached to this Policy:

- a. All loss or damage resulting from a continuous flood event, irrespective of the amount of time or area over which such loss or damage occurs, will be considered a single occurrence.

All loss or damage from earth movement or named storm within the time period specified in the Occurrence Time Specifications shown on the Declarations will be considered a single occurrence. The first Named Insured may elect the point in time when the time period specified in the Occurrence Time Specifications begins.

An occurrence that commences during the Policy term will not be limited by the expiration of this Policy.

5. WATER DAMAGE:

All water damage excluding flood, however caused, whether by natural event or manmade, including but not limited to interior water damage, damage due to water from pipe breakage or sprinkler leakage, damage from rainfall and/or resulting runoff; all whether wind driven or not.

6. TESTING:

COLD TESTING - means testing, exclusive of Hot Testing as defined in this Policy, including but not limited to electrical, mechanical, hydraulic, hydrostatic and pneumatic testing and includes the testing of systems and equipment that are intended to service a building, such as boilers, chillers, pumps and similar equipment.

HOT TESTING – means the testing of machinery or equipment that will be used in manufacturing, processing or power generation operations, when such machinery or equipment involves the use of feedstock, fuel, catalysts or similar materials, for the purpose of simulating load, operating or production conditions to train personnel or to verify the machinery or equipment functions according to the design specifications. Hot testing does not mean electrical, mechanical, hydraulic, hydrostatic or pneumatic testing, including the startup and testing of systems and equipment that are intended to service a building, including boilers, chillers, pumps, and similar equipment.

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EXCLUDED PROJECT TYPES

Examples of projects that may require separate underwriting, including (but not limited to):

• Wood Frame, Heavy Timber, CLT construction where the values are estimated to exceed \$10M by project completion date
• Joisted Masonry construction where values are estimated to exceed \$15M by project completion date
• Any Fire Resistive; Non-Combustible; or Masonry Non-Combustible construction where the values are estimated to exceed \$100M by project completion date
• Stand alone power generation, Utility plants, Co-Generation facilities, Waste water and Waste treatment facilities, etc. not contracted as part of a larger building project
• Stadiums
• Bridges
• Cleanroom construction (both new and renovation) of any size
• Directional drilling
• Gas turbines
• Any project involving prototypical design or the use of unproven technology
• Any project with hot-testing where the values are estimated to exceed \$100M by project completion date
• Projects with any other Construction Type, beyond Fire Resistive; Non-Combustible; Masonry Non-Combustible; Joisted Masonry; or Wood Frame, that are constructed of non-combustible materials or fire-resistive materials having a fire resistant rating of less than two hours

EXHIBIT 13
CONFIRMATION OF CERTIFICATION

For the Contractor and each Subcontractor indicated on the Report of Subcontractor Information, the following must be completed.

Indicate all Business category(ies) that apply by checking the box next to the applicable category(ies), providing the Certification Agency and Certification Number along with attached proof of certification.

☐ Small Business Enterprise (SBE) - an independently owned and operated concern certified as a small business by the California Department of General Services Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS) or other accepted certifying agency as listed here. https://ucop.edu/sbe-dvbe-certifications Certifying Agency: _____ Certification Number: _____ (Attach documentation of certification to this form)
☐ Disabled Veteran Business Enterprise (DVBE) - an independently owned and operated concern certified as a DVBE by the State of California Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS) or other accepted certifying agency as listed here. https://ucop.edu/sbe-dvbe-certifications Certification Type: _____ Certification Number: _____ (Attach documentation of certification to this form)
☐ None of the Above –Select this option if none of the above apply
<i>The below information is being collected post-award for statistical purposes only. Please check all Business category(ies) that apply:</i>
☐ Disadvantaged Business Enterprise (DBE) - a business concern that is at least 51% owned by one or more socially and economically disadvantaged individuals or, in the case of any publicly owned business, at least 51% of the stock of which is owned by such individuals and whose management and daily business operations are controlled by one or more of such individuals. Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as members of a group without regard to their individual qualities. Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free private enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged. Business owners who certify that they are members of named groups (Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans) are to be considered socially and economically disadvantaged.
☐ Women-Owned Business Enterprise (WBE) - a business concern that is at least 51% owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management.
☐ None of the Above –Select this option if none of the above apply

PROJECT NAME:
University of California, Los Angeles

Project No.: _____

I hereby certify under penalty of perjury under the laws of the State of California that I have read this certification and know the contents thereof, and that the business category indicated above reflects the true and correct status of the business. I understand that falsely certifying the status of this business, may result in suspension from participation in University of California business contracts for a period up to five (5) years and the imposition of any civil penalties allowed by law.

INFORMATION FURNISHED BY:

(Print or Type Name of Owner and/or Principal)

(Name of Business or Firm)

a

(Insert type of business e.g. corporation, sole proprietorship, partnership, etc.)

By:

(Print Name)

(Title)

(Signature)

(Date)

(NOTE: THIS EXHIBIT IS NOT TO BE SUBMITTED WITH BID)

EXHIBIT 14
REPORT OF SUBCONTRACTOR
INFORMATION

Sheet No. ____ of ____

Provide the following information for each contracting party including the CM/Contractor and each Subcontractor regardless of tier.* Attach additional sheets if necessary.

1	2A	2B	3	4	5	6	7		8				
Full Name of Business	Portion of the Work	Dollar Amt.	Street Address, City, State and ZIP	Phone No/ FAX No	Contact Name	Type of Ownership	License Info**		Business categories* (Check <u>all</u> categories that apply)				
							License Classification**	License No.**	SB E*	DBE *	WBE *	DVBE *	N/A*
(CM/GC)													
(Sub 1)													
(Sub 2)													
(Sub 3)													
				Column 6 - Type of Ownership			Column 8 - Business Categories						
				SP = Sole Proprietorship P = Partnership C = Corporation JV = Joint Venture O = Other			SBE = Small Business Enterprise DBE = Disadvantaged Business Enterprise WBE = Woman Business Enterprise DVBE = Disabled Veteran Business Enterprise						

*Regardless of tier, a completed Self-Certification must be submitted for the General Contractor and each Subcontractor shown on this Exhibit.

**List only those License Classification and Numbers relevant to this project.

END OF REPORT OF SUBCONTRACTOR INFORMATION

CONTRACTOR'S DAILY REPORT

Prime Contractor: _____

Subcontractor: _____

Job Name & Area: _____

Date: _____

NOTE: Please indicate, by category, the number of workers on site, and the hours, for the above date.								
CATEGORY	#	HOURS	CATEGORY	#	HOURS	CATEGORY	#	HOURS
Superintendents			Foreman			Carpenters		
Laborers			Operating Eng.			Pipefitters		
Cement Finishers			Sheet Metal			Masons		
Lathers			Ironworkers			Plasterers		
Truck Drivers			Painters			Electricians		
Plumbers								
Work Force: Superintendents & Foremen			Work Force: Workers			Total Work Force:		

Materials Delivered: _____

Description of Work and Location: _____

Injuries or Accidents: _____

Special Notes (incl. Union Representatives and Special Visitors): _____

NOTE: Contractor and each subcontractor on site shall completely fill out a Contractor's Daily Report, on forms provided by University's Representative (refer to Exhibits, bound herein), for each day worked. It is the responsibility of Contractor to submit all Daily Reports, including those of subcontractors, by 9:00 a.m. the following work day. Failure to submit Daily Reports in a timely manner may result in delayed progress payment(s).

(Signature)_____
(Printed Name)

EXHIBIT 16**FINAL DISTRIBUTION OF CONTRACT DOLLARS**

Sheet No. _____ of _____

Provide the following information for each contracting party including the Contractor and each Subcontractor regardless of teir. *Attach additional sheets if necessary.

1	2	3	4	5					6	
Full Name of Business	Street Address, City, State and ZIP	Telephone No./ Fax No	Contact Name	Business Categories					Contract Dollars	
				SBE*	DBE*	WBE*	DVBE*	N/A	Amount (\$)	Percent (%)
(GC)										0%
(Sub1)										0%
(Sub2)										0%
(Sub3)										0%
										0%
										0%
										0%
										0%
										0%
										0%
Total Contract Amount = \$ _____				Column 6 – Business Categories					SUBTOTALS	
				SBE = Small Business Enterprise					\$	
				DBE = Disadvantaged Business Enterprise					\$	
				WBE = Women Business Enterprise					\$	
				DVBE = Disabled Veteran Business Enterprise					\$	

*Regardless of teir, a completed Self-Certification must have been submitted for the General Contractor and each Subcontractor shown in this Exhibit.

**Refer to the Report of Subcontractor Information for license and other information.

EXHIBIT 17
CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Name: {FILL IN}

Project Number: {FILL IN} Order Number: {FILL IN}

Contractor: {FILL IN}

Date of Issuance: {FILL IN}

The Work has been reviewed and the date of Substantial Completion is hereby established as of the date of issuance above.

A Certificate of Occupancy has been issued by the University's Building Official Carl Newth on {Month, Day, Year}.

A list of items to be completed or corrected is included herein. The failure to include any items on such list does not alter the responsibility of Contractor to complete all of the Work in accordance with the Contract Documents.

In accordance with the Contract Documents, Contractor is notified as follows:

1. Without limitation of Contractor's obligation to fully complete the Work within the Contract Time, Contractor shall complete or correct the Work on the list of items attached hereto within {#} days from the date of Substantial Completion.
2. University will be responsible for {INSERT "NONE" OR STATE ANY UNIVERSITY RESPONSIBILITIES AFTER SUBSTANTIAL COMPLETION: security, maintenance, utilities (e.g. water, sewer, electrical, gas, etc.)}.
3. Contractor shall be responsible for all Contract requirements except items or responsibilities of University set forth in Paragraph 2 above.
4. List of items to be completed or corrected: {INSERT "SEE ATTACHED LIST" OR IDENTIFY ITEMS TO BE COMPLETED/CORRECTED}

UNIVERSITY'S REPRESENTATIVE:

(Name of Firm)

(Signature)

(Typed or Printed Name)

(Title)

(Date)

UNIVERSITY: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

(Signature)

(Typed or Printed Name)

(Title)

(Date)

EXHIBIT 18
GENERAL CONTRACTOR CLAIM CERTIFICATION

Pursuant to Article 4.3.3 of the General Conditions, I certify as follows:

1. The Claim to which this certification is attached is made in good faith.
2. Amounts claimed for costs, expenses and damages incurred by Contractor are accurate and complete. Supporting data for amounts incurred by Contractor is accurate and complete. Any such supporting data, including any such new amounts, submitted after the execution of this certification, will be accurate and complete.
3. To the best of my knowledge and belief, amounts claimed, and supporting data submitted by Contractor on behalf of any and all subcontractors or suppliers, of all tiers, or any person or entity under Contractor, are accurate and complete. Contractor will not submit, after the date of execution of this certification, any such supporting data, including any such new amounts that, to the best of my knowledge and belief, is not accurate and complete.
4. The amount requested accurately reflects the adjustment of the Contract Sum for which the Contractor believes the University is liable.
5. Attached hereto is a certification that has been executed by each Subcontractor claiming not less than 5% of the total monetary amount sought by the claim to which this certification is attached.
6. I am duly authorized to certify the Claim on behalf of the Contractor.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and

correct and that this declaration was executed at: _____,
(Name of City if within a City, otherwise Name of County)

in the State of _____, on _____.
(State) (Date)

(Signature)

(Print Name)

(Name of Contractor)

EXHIBIT 19
SUBCONTRACTOR CLAIM CERTIFICATION

Pursuant to Article 4.3.3 of the General Conditions, I certify as follows:

1. The portion of the Claim made on behalf of the Subcontractor to which this certification is attached is made in good faith.
2. Amounts claimed for costs, expenses and damages incurred by the Subcontractor are accurate and complete. Supporting data for amounts incurred by the Subcontractor is accurate and complete. Any such supporting data, including any such new amounts, submitted to Contractor after the execution of this certification, will be accurate and complete.
3. To the best of my knowledge and belief, amounts claimed, and supporting data submitted to Contractor by the Subcontractor on behalf of any and all subcontractors or suppliers to Subcontractor, of all tiers, or any person or entity under Subcontractor, are accurate and complete. Subcontractor will not submit, after the date of execution of this certification, any such supporting data, including any such new amounts that, to the best of my knowledge and belief, is not accurate and complete.
4. The amount requested accurately reflects the amount for which the Subcontractor believes the University is liable to Contractor.
5. I am duly authorized to certify the Claim on behalf of the Subcontractor.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and

correct and that this declaration was executed at: _____,
(Name of City if within a City, otherwise Name of County)

in the State of _____, on _____.
(State) (Date)

(Signature)

(Print Name)

(Name of Subcontractor)

WHEN RECORDED, MAIL TO:
LISA COMPTON
UNIVERSITY OF CALIFORNIA LOS ANGELES
CAPITAL PROGRAMS
1060 VETERAN AVE, SUITE 125
BOX 951365
LOS ANGELES, CA 90095-1365

NOTICE OF COMPLETION

NOTICE IS HEREBY GIVEN that on the {DAY OF MONTH} day of {MONTH, YEAR}, the Work on the <ProjectName> <Project#> {ORDER#} Project was completed. The name of the owner is THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, hereinafter referred to as "The Regents." The address of The Regents is University of California, Office of the President, 1111 Franklin St., 6th Floor, Oakland, California 94607-5200. The Regents is the owner in fee simple of the real property commonly known as {BUILDING NAME, IF ANY}, {BUILDING #, IF ANY}, {NAMES OF STREETS ABUTTING PROJECT, IF ANY, AND STREET ADDRESS, IF ANY}, University of California Los Angeles, {CITY IN WHICH PROJECT IS LOCATED}, {COUNTY IN WHICH PROJECT IS LOCATED} and of all improvements and buildings thereon including the above-named Project. The name of the original Contractor is {Contractor Firm Name}.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA:

By: _____
{insert UCLA name & title}

I, {SIGNER'S NAME}, say that I am the {SIGNER'S TITLE} of the Los Angeles campus of the University of California, and as such, make this verification on behalf of The Regents, a corporation; and that I have read the above Notice of Completion and know the contents thereof and that the facts stated therein are true. I declare under penalty of perjury that the foregoing is true and correct. Executed on _____, at _____.

(Signature)

(Note: Attach Notarization of Signature)

STATE OF CALIFORNIA)
COUNTY OF _____)

On _____, before me, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity on behalf of the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

IN WITNESS WHEREOF, my hand and official seal.

Signature

My Commission expires: _____

**SPECIFICATIONS
FOR
SKIDATA PAY MACHINES INSTALLATION**

**UNIVERSITY OF CALIFORNIA
LOS ANGELES CAMPUS
LOS ANGELES, CALIFORNIA**

MAY 2025

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END OF INDEX TO SPECIFICATIONS

SECTION 01 14 00
WORK RESTRICTIONS

1. GENERAL

1.1 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. Refer also to Section 01 60 00, PRODUCT REQUIREMENTS.

1.2 WATCHMAN'S SERVICES

- A. During all hours that Work is not being prosecuted, 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.
- B. University will not be liable for any loss or damage.

1.3 RUBBER-TIRED EQUIPMENT

- A. Where carts, hand trucks, wheelbarrows, and similar wheeled conveyances are used on or in any portions of any structure, equip with pneumatic tires.

1.4 SITE DECORUM

- A. Contractor shall control the conduct of its employees so as to prevent unwanted interaction initiated by Contractor's employees with UCLA students, UCLA staff, or other individuals (except those associated with the Project), adjacent to the Project site. 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 utilizes 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 University. No radios, other than two-way communication type, will be allowed on the Project site. The use of cigarettes, cigars, oral tobacco, electronic cigarettes and all other tobacco products is prohibited on the UCLA Westwood campus and other sites owned or leased by UCLA.

1.5 CONTROL OF CONSTRUCTION WATER

- A. Provide impermeable floor coverings and suitable dams to prevent damage by water used for the Work. Immediately clean up and remove all surplus water and water spilled in non-working areas. Do not allow water to overflow gutters or flood streets.

1.6 WORK HOURS A. Unless otherwise approved in advance by University's Representative, the Work of this Project shall be accomplished only during the following hours:

Mondays through Fridays 8:00 p.m. to 7:00 a.m.
Saturdays & Sundays 4:00 a.m. to 6:00 p.m.
No work shall be performed on University holidays.

- C. Restricted hours:
All work impacting parking stalls or vehicular traffic, including entry and exit lanes shall be restricted to Nights and Weekends or shall take place outside of the peak hours of 7:00 a.m. to 8:00 p.m.

1.7 CONSTRUCTION SIGNAGE

- A. All signage shall be as approved by University's Representative.
- B. University-Furnished Warning Signs: Whenever required by University's Representative, post University-furnished warning signs in locations as directed.
- C. Advertising Signage: The use of Contractor/subcontractor advertising signage is prohibited.
- D. Project Sign: Contractor shall furnish support structures consisting of 6" x 6" painted wooden posts to support 2 University-furnished project signs. University will deliver the signs to the Project site and Contractor shall install them by bolting support structure to the wooden signs and placing them in locations approved by University's Representative.

1.8 MEDICAL CENTER DIRECTORY SIGNS

- A. For projects within the Medical Center only, remove all directory signs as needed in a manner which will preserve and protect signs from damage. Contact University's Representative to determine where signs should be delivered within the Medical Center.

1.9 KEY PROTOCOL

- A. Room Access Key Protocol: Contractor shall furnish to University's Representative a list of all rooms (including mechanical and electrical rooms) to which Contractor will need access. University's Representative will furnish a key ring for access to those specific areas. Upon completion of the Project, Contractor shall return the key ring to University's Representative.

1.10 HISTORICAL, ARCHEOLOGICAL AND PALEONTOLOGICAL RESOURCES

- A. In order to preserve and protect potentially historic, archeological or paleontological resources that could be encountered on a construction site, University's Representative will give the information handout, "UCLA Needs Your Help in Protecting the Past" to Contractor at the Pre-Construction Meeting

referenced in Section 01 31 19, PROJECT MEETINGS. Contractor shall ensure that all appropriate Subcontractors receive said handout, that they comply with all applicable requirements during excavation and construction, and that they understand that the unauthorized collection of historic, archeological or paleontological resources is prohibited by law. Contractor's responsibility includes (1) distributing the information handout to all construction personnel working on a site prior to commencing any earthmoving activities; (2) immediately halting all work in all areas where any potentially historic, archeological or paleontological remains (as identified in the handout) are uncovered; and (3) immediately notifying University's Representative if such materials are found. Contractor shall not resume work in the affected areas until authorized by University's Representative.

1.11 TRAFFIC CONTROL

- A. Provide traffic control barriers and flagperson(s) throughout the construction period.
1. Furnish flagperson(s) at pedestrian crossings of construction equipment right of ways one hundred percent of the time such equipment is operating. When equipment is not operating, such equipment right of ways shall be closed to equipment by means of a chain link gate.
 2. Provide temporary traffic control barriers to ensure safety of all persons and property.
 3. Furnish numbers of flagperson(s) necessary for vehicular and pedestrian traffic control. Flagperson(s) shall be on duty at all times when the Work is in progress. See additional notes on Drawings.

1.12 NOT USED

1.13 WORK SEQUENCE

- A. General:
1. The Work of this Contract is divided into the sequences indicated below.
 2. At the completion of each sequence, University intends to take beneficial occupancy of the sequence for immediate use, if applicable.
 3. University reserves the right to vary the order of sequencing upon written notice to Contractor prior to the date on which Contractor is to proceed with the work of any sequence affected by the change.
 4. All of the work required for each sequence shall be fully completed prior to commencement of the work of the next sequence, and all work of the contract shall be fully completed by completion of the final sequence, whether or not included in the sequence description.
- B. Sequences:
1. Sequence 1:
 - a. The Work of Sequence 1 shall include the area highlighted as Phase 1 on sheet PK0.10.
 - b. Contractor shall commence the Work of Sequence 1 on the date specified in the Notice to Proceed.
 2. Sequence 2:
 - a. The Work of Sequence 2 shall include the area highlighted as Phase 2 on Sheet PK0.10.
 - b. Contractor shall commence the Work of Sequence 2 approximately 15 days following completion of the Work of Sequence 1.
 3. Sequence 3:
 - a. The Work of Sequence 3 shall include the area highlighted as Phase 3 on Sheet PK0.10.
 - b. Contractor shall commence the Work of Sequence 3 approximately 15 days following completion of the Work of Sequence 2.
 4. Sequence 4:
 - a. The Work of Sequence 4 shall include the area highlighted as Phase 4 on Sheet PK0.10.
 - b. Contractor shall commence the Work of Sequence 4 approximately 15 days following completion of the Work of Sequence 3.
 5. Sequence 5:
 - a. The Work of Sequence 5 shall include the area highlighted as Phase 5 on Sheet PK0.10.
 - b. Contractor shall commence the Work of Sequence 5 approximately 15 days following completion of the Work of Sequence 4.

1.14 INTERRUPTION OF UTILITIES/BUILDING SERVICES

- A. Maintain continuous utility 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, 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 15 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. Include in Contractor's bid the cost of overtime necessary for the Work. No extra payment will

be allowed for overtime to meet this requirement or the Contract Schedule.

- 1.15 **BENEFICIAL OCCUPANCY**A. University intends to take Beneficial Occupancy prior to completion of the entire Project, including the following:
1. University shall occupy each entry and exit lane as it is upgraded in each parking structure as well as any parking stalls that are used for work at nights or weekend will be used during normal hours.

- 1.16 **USE OF DRONE(S) / UNMANNED AERIAL VEHICLE(S)**
- A. At least (30) days prior to Contractor and/or Subcontractor utilizing drone(s)/unmanned aerial vehicle(s) (UAS) in the performance of their Work, Contractor shall notify University's Representative of such intended utilization, and shall submit proof of UAS insurance as specified in General Conditions Article 11, Insurance.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 25 13
PRODUCT SUBSTITUTION PROCEDURES

1. GENERAL

1.1 GENERAL PROVISIONS REGARDING SPECIFICATION OF PRODUCTS, MATERIAL OR EQUIPMENT BY BRAND OR TRADE NAME

- A. 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.
- B. 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 costs or changes which affect other parts of the Work, the work of Separate Contractors, or any other property or operations of University.
- C. 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, and if the substitution complies with all other requirements of the plans and specifications.
- D. Not Used.
- E. 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.
- F. 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 shall confirm, prior to submitting its Bid, the availability of any product, material or equipment specified by brand or trade name and model number.

1.2 SPECIAL REQUIREMENTS FOR PRODUCTS, MATERIAL OR EQUIPMENT, OTHER THAN THE FIRST-NAMED PRODUCT, MATERIAL OR EQUIPMENT, SPECIFIED BY BOTH BRAND OR TRADE NAME AND MODEL NUMBER.

- A. In addition to complying with all other submittal requirements of the Contract, submit within 70 days after the date of commencement specified in the Notice to Proceed, for review and approval by 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 70 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 70-day period.
- B. 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 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 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.

1.3 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 and appearance 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 and Applicable Code Requirements.

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. At the request of and within the timeframes specified by University's Representative:
 1. Submit samples as deemed necessary by University's Representative to evaluate the proposed substitution.
 2. Submit proposed substitution to tests deemed necessary by 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 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. Furnish all additional information deemed necessary by University's Representative to evaluate the proposed substitution.
- C. 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 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.
- D. 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 1.3.A herein, must be submitted to University's Representative not later than 35 days after the date of commencement specified in the Notice to Proceed. No requests for substitutions of products, material or equipment subject to the 35-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 University to accept such substitution.
- E. 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 1.3.A herein, 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 foregoing, 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 University to accept such substitution.
- F. 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.
- G. 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.
- H. The University's Representative may refuse to approve any requested substitution where, in the reasonable opinion of 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.
- I. University's Representative may reject any substitution not proposed in the manner and within the time limits prescribed herein.
- J. Substitutions are not allowed unless approved in writing by University's Representative. Any such approval shall not relieve Contractor from the requirements of the Contract Documents.
- K. The 35-day and 70-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.
- L. 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 University's Representative. The University's Representative may refuse to approve any such proposed revisions or modifications where, in the reasonable opinion of 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.

M. If a substitution request is finally rejected by University 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) specified in Paragraph 1.2 herein.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

1. GENERAL

1.1 REQUEST FOR INFORMATION PROCEDURES

- A. This Paragraph 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.
- B. Procedures:
1. Notification by Contractor:
 - a. Submit all requests for clarification or additional information in writing to University's Representative using the Request for Information (RFI) form furnished by University's Representative or a similar form approved by University's Representative.
 - b. Number RFIs sequentially. Follow RFI number with sequential alphabetical suffix as necessary for each resubmission. For example, the first RFI would be "001." The second RFI would be "002." The first resubmittal of RFI "002" would be "002a."
 - c. Limit each RFI to one subject.
 - d. Submit an RFI if one of the following conditions occur:
 - 1) Contractor discovers an unforeseen condition or circumstance that is not described in the Contract Documents.
 - 2) 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.
 - 3) Contractor discovers what appears to be an omission from the Contract Documents that cannot be reasonably inferred from the intent of the Contract Documents.
 - e. Contractor shall not:
 - 1) Submit an RFI as a request for substitution.
 - 2) Submit an RFI as a submittal.
 - 3) Submit an RFI under the pretense of a Contract Documents discrepancy or omission without thorough review of the Documents.
 - 4) Submit an RFI 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.
 - 5) Submit an RFI in an untimely manner without proper coordination and scheduling of Work of related trades.If Contractor submits an RFI contrary to the above, Contractor shall pay the cost of all review, which cost shall be deducted from the Contract Sum.
 - f. Contractor shall submit request for information or clarification immediately upon discovery. Contractor shall submit RFIs within a time frame so as not to delay the Contract Schedule while allowing the full response time described below.
 2. Response Time:
 - a. University's Representative, whose decision will be final and conclusive, shall resolve such questions and issue instructions to Contractor within a reasonable time frame. In most cases, RFIs will receive a response within 14 days. If in the opinion of University's Representative more than 14 days is required to prepare a response to an RFI, Contractor will be notified in writing.
 - b. 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.
 - c. 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.

1.2 CHANGES IN THE WORK

- A. Refer to General Conditions, Article 7.
- B. Request for Estimate (RFE) and Special Drawings:
1. Changes in the Work will be initiated by University's Representative in the written form of a RFE and numbered in sequence using the "500" series.
 2. Special Drawings that are issued with RFE's will be numbered in sequence using the RFE number.
 3. Contractor shall price and return RFE's within 7 days after receipt.
- C. Field Orders: Field Orders, if necessary to preclude unnecessary delays/costs, will be initiated by

- University's Representative and numbered sequentially using the "300" series.
- D. Change Orders will be numbered in sequence 1, 2, 3, etc.
- E. Clarification Drawings: Clarification Drawings will be numbered in sequence using "1000" series.
- F. Cost Proposals for changes as follows: Original and 2 copies to University's Representative, and 3 copies to University's Project Manager. (Attach RFE and/or Field Order to each Cost Proposal.)
 - 1. Submit in accordance with the General Conditions.
- G. Cost Proposals shall show detailed breakdown of material, labor, etc., plus applicable percentages for Contractor Fee as specified in Article 7 of the General Conditions. (Sample format for submittal will be distributed at the Pre-Construction Meeting specified in Section 01 31 19, PROJECT MEETINGS.)
- H. University's Representative will prepare and process Change Orders. Final distribution will be made by University's Project Manager after Change Orders are fully executed.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

1. GENERAL

1.1 CONTRACTOR'S CORRESPONDENCE

- A. Contractor's correspondence directed to University's Representative.
 - 1. Original to University's Representative.
 - 2. 1 copy to University's Project Manager.

1.2 UNIVERSITY'S REPRESENTATIVE'S CORRESPONDENCE

- A. University's Representative's correspondence directed to Contractor.
 - 1. Original to Contractor.
 - 2. 1 copy to University's Project Manager.

1.3 CERTIFIED PAYROLL RECORDS

- A. In the event that Contractor or any of its Subcontractors that are required to submit certified payrolls fail to fully complete the web-based electronic certified payroll reporting (eCPR) applicable to any period covered by an Application for Payment, a delay in the University's processing said progress payment shall occur until the eCPR is completed. Refer to General Conditions and Supplementary Conditions Article 14.4.

1.4 CONTRACTOR'S DAILY REPORTS

- A. Contractor and each subcontractor on site shall completely fill out a Contractor's Daily Report, on forms furnished by University's Representative (refer to Exhibits, bound herein), for each day worked. It is the responsibility of Contractor to submit all Daily Reports, including those of subcontractors, by 9:00 a.m. the following work day. Failure to submit Daily Reports in a timely manner may result in delayed progress payment(s).

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 13
PROJECT COORDINATION

1. GENERAL

1.1 DESCRIPTION

- A. Coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.
- B. Anticipate the interrelationship of all Subcontractors and their relationship with the Work.
- C. Resolve differences or disputes between Subcontractors concerning coordination, interference, or extent of Work between sections of the Work.
- D. Coordinate the Work of Subcontractors so that portions of the Work are performed in a manner that minimizes interference with the progress of the Work.
- E. Do not obstruct spaces and installations that are required to be clear by Applicable Code Requirements. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.
- F. Apparatus and Equipment Locations:
 - 1. Locations of apparatus and equipment indicated on the Drawings are approximate only, and are subject to change to suit operational service as approved by University's Representative.
 - 2. Furnish and install apparatus and equipment in a manner and in locations which keep openings and passageways clear. Make changes in locations of equipment and materials which may be necessary to accomplish these purposes as approved by University's Representative.
- G. Do not cover any piping, wiring, ducts, or other installations until they have been inspected and approved, and required certificates of inspection issued.
- H. 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.
- I. 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.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 19
PROJECT MEETINGS

1. GENERAL

1.1 PRECONSTRUCTION CONFERENCE

- A. Prior to commencement of Work, a pre-construction conference (Kick-Off Meeting) will be conducted by University's Representative to discuss procedures which are to be followed during performance of the Work.
- B. Location: As designated by University's Representative.
- C. Attending shall be:
 - 1. University's Representative.
 - 2. University.
 - 3. University's consultants and University's Representative's consultants, as appropriate.
 - 4. Contractor.
 - 5. Contractor's Superintendent.
 - 6. Subcontractors, as appropriate.
 - 7. Others, as appropriate.

1.2 BILLING MEETING

- A. A billing meeting shall be conducted by University's Representative each month prior to submittal of the Application for Payment.
- B. Location: As designated by University's Representative.
- C. Attending shall be:
 - 1. University's Representative.
 - 2. University.
 - 3. University's consultants and University's Representative's consultants, as appropriate.
 - 4. Contractor.
 - 5. Contractor's Superintendent.
 - 6. Subcontractors, as appropriate.
 - 7. Others, as appropriate.

1.3 PROGRESS MEETING

- A. During the course of construction, progress meetings will be held to discuss and resolve field problems. Progress meetings will be on a weekly basis unless determined otherwise by University's Representative.
- B. Location: As designated by University's Representative.
- C. Attending shall be:
 - 1. University's Representative.
 - 2. University.
 - 3. University's consultants and University's Representative's consultants, as appropriate.
 - 4. Contractor.
 - 5. Contractor's Superintendent.
 - 6. Subcontractors, as appropriate.
 - 7. Others, as appropriate.
- D. The minutes of these meetings will be prepared by University's Representative and issued as expeditiously as possible to:
 - 1. Contractor (number of copies agreed upon).
 - 2. University's Project Manager (number of copies agreed upon).
- E. Contractor shall submit in writing questions and answers (previously obtained verbally) to be confirmed at each meeting in sufficient numbers for distribution to each person in attendance.

1.4 GUARANTEES, BONDS, AND SERVICE AND MAINTENANCE CONTRACTS REVIEW MEETING

- A. Eleven months following the date of Beneficial Occupancy, Substantial Completion, if applicable, or Final Completion, whichever occurs earliest, a meeting shall be conducted by University for the purpose of reviewing the guarantees, bonds, and service and maintenance contracts for materials and equipment.
- B. Attending shall be:
 - 1. University.
 - 2. University's Consultants, as appropriate.
 - 3. Contractor.
 - 4. Subcontractors, as appropriate.
 - 5. Others, as appropriate.

1.5 AS-BUILT DRAWING REVIEW MEETING

- A. When required by University's Representative, a meeting shall be conducted by University's Representative every 30 days to review the as-built drawings. Refer to Section 01 78 39, PROJECT RECORD DOCUMENTS.
- B. Attending shall be:
 - 1. University's Representative.

2. University.
3. University's consultants, as appropriate.
4. Contractor.
5. Subcontractors, as appropriate.
6. Others, as appropriate.

1.6 NOT USED

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 00
CONSTRUCTION PROGRESS DOCUMENTATION

1. GENERAL

1.1 PRELIMINARY CONTRACT SCHEDULE

- A. Submission:
1. Submit the Preliminary Contract Schedule to University's Representative within 10 days after receipt of Notice of Selection as Apparent Lowest Responsible Bidder.
 2. Within 7 days after receipt of the Preliminary Contract Schedule, University's Representative will notify Contractor of its acceptance of, or its review comments about, the schedule so that appropriate adjustments may be made by Contractor in the development of the Contract Schedule.
- B. Form:
1. Prepare the Preliminary Contract Schedule as a CPM, time-scaled network diagram showing continuous flow from left to right.
 2. Prepare the Preliminary Contract Schedule in sufficient detail to demonstrate preliminary planning for the Work and to represent a practical plan to complete the Work within the Contract Time.
 3. Identify the following milestone events on the Preliminary Contract Schedule: PM CONFIRM BELOW ACCURATE Added a missing task. Now confirmed complete VB
 - a. Submittals
 - b. PS1:
 - 1) PS1 Pay on Foot Replacement
 - 2) PS1 Exit Lane Upgrade & LPR Install
 - 3) PS1 Entry Lane Upgrade & LPR Install
 - 4) PS1 Testing & Commissioning
 - c. Med Plaza:
 - 1) Med Plaza Pay on Foot Replacement
 - 2) Med Plaza Exit Lane Upgrade & LPR Install
 - 3) Med Plaza Entry Lane Upgrade & LPR Install
 - 5) Med Plaza Level B1 Phase 1
 - 6) Med Plaza Level B1 Phase 2
 - 7) Med Plaza Level B1 Phase 3
 - 8) Med Plaza Level B1 Phase 4
 - 9) Med Plaza Level B1 Phase 5
 - 10) Med Plaza Testing & Commissioning
 - d. Reagan:
 - 1) Reagan Pay on Foot Replacement
 - 2) Reagan Exit Lane Upgrade & LPR Install
 - 3) Reagan Entry Lane Upgrade & LPR Install
 - e. Stein:
 - 1) Stein Pay on Foot Replacement
 - 2) Stein Exit Lane Upgrade & LPR Install
 - 3) Stein Entry Lane Upgrade & LPR Install
 - 4) Stein Testing & Commissioning
 - f. Luskin:
 - 1) Luskin Pay on Foot Replacement
 - 2) Luskin Exit Lane Upgrade & LPR Install
 - 3) Luskin Entry Lane Upgrade & LPR Install
 - 4) Luskin Testing & Commissioning
 - g. Parking Booths Demolition and Patching
 - h. Final Cleaning:
 - 1) Identify all holidays and non-working days on the Preliminary Contract Schedule
 - 2) Activities: Identify all work activities which constitute the critical path

1.2 CONTRACT SCHEDULE

- A. Submission:
1. Submit the Contract Schedule, in the form and having general content acceptable to University's Representative within 15 days following Notice to Proceed and prior to submitting the first Application for Payment.
 2. University's Representative will determine acceptability of the Contract Schedule within 7 days after its receipt.
 3. No Application for Payment will be processed nor shall any progress payment become due until the Contract Schedule is accepted by University's Representative.
- B. Form:
1. The Contract Schedule shall be a CPM, time-scaled network diagram showing continuous flow from left to right.

2. Identify the following milestone events on the Contract Schedule:
 - a. Refer to Paragraph 1.1.B.3 above.
 3. Identify all holidays and non-working days on the Contract Schedule.
 4. If the Contract Schedule is shown on more than 1 sheet, furnish a summary sheet.
- C. Activities:
1. 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.
 - 1) 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.
 - 2) A minimum of 21 days shall be allotted for University's Representative to review each submittal.
 - b. System test dates.
 - c. Scheduled overtime Work if required by Contract Documents.
 - d. Dates Contractor requests designated working spaces, storage areas, access, and other facilities to be furnished by University.
 - e. Dates Contractor requests orders and decisions from University on designated items.
 - f. Dates Contractor requests University-furnished equipment.
 - g. Dates Contractor requests University-furnished utilities.
 - h. Connection and relocation of existing utilities.
 - i. Connecting to or penetrating existing structures.
 - j. Scheduled inspections as required by Codes, or as otherwise specified.
 2. Identify all Work activities that constitute the critical path.
 3. Critical Work activities are defined as Work activities which, if delayed or extended, will delay the scheduled completion of one or more of the milestones specified in this Section or the scheduled completion of the Work, or both. All other Work activities are defined as non-critical Work activities and are considered to have float.
 4. Float is defined as the time that a non-critical Work activity can be delayed or extended without delaying the scheduled completion of milestones specified in this Section or the scheduled completion of the Work, or both. Neither Contractor nor University shall have an exclusive right to the use of float. The party using float shall document the effect on the updated Contract Schedule.
 5. Delays of any non-critical Work 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.
 6. The presentation of each Work activity on the 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.
 7. Contractor shall furnish cost estimates for each Work activity which cumulatively equal the total contract cost. Mobilization costs may be shown separately; however, other costs, i.e., profit and bond shall be pro-rated throughout all activities.
- D. Updating:
1. Review the Contract Schedule with University's Representative once each week to incorporate in the Contract Schedule all changes in the progress, sequences, and scope of Work activities.
 2. Prepare and submit to University's Representative an updated Contract Schedule once each month, or as mutually agreed.
 - a. 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.
 - b. 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.
 - c. Contractor shall perform the Work in accordance with the updated Contract Schedule. Contractor may change the Contract Schedule to modify the order or method of accomplishing the Work only with prior agreement by University.
 3. Contractor shall submit the updated Contract Schedule, in the form acceptable to University's Representative, at least 7 days prior to submitting the Application for Payment.
 4. University's Representative will determine acceptability of the updated Contract Schedule within 7 days after its receipt.
 5. No Applications for Payment will be processed nor shall any progress payments become due until updated Contract Schedules are accepted by University's Representative.
 6. The accepted, 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.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 23
SHOP DRAWINGS, PRODUCT DATA & SAMPLES

1. GENERAL

1.1 REQUIREMENTS INCLUDED

- 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 25 13, PRODUCT SUBSTITUTION PROCEDURES. Contractor shall be responsible for obtaining such copies of Shop Drawings, Product Data, and Samples as it may require for its own use.

1.2 RELATED REQUIREMENTS

- A. Definitions:
1. The terms "Shop Drawings" and "Product Data" as used herein also include fabrication, erection, layout and setting drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams, all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment, or systems and the positions thereof conform to the Contract Documents.
 2. 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 correct relation to adjoining Work, and amplify design details of mechanical and electrical equipment in accurate relation to physical spaces in the structure.
- B. 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 instructions, 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.
- C. Submittal Schedule:
1. A schedule for submission of Shop Drawings, Product Data, and Samples by Contractor (the "Submittal Schedule"), and their processing and return by University's Representative, 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.
 2. Contractor shall prepare the Submittal Schedule using a form to be furnished by University's Representative at the Pre-Construction Meeting (see Section 01 31 19, PROJECT MEETINGS) 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 before the acceptance of the Submittal Schedule.
 3. In preparing the Submittal Schedule, Contractor shall first determine from the Contract Schedule the date the particular item is needed for the Work. Working backwards, Contractor shall add the required number of days for shipment, time for fabrication, and similar items to determine the date of the first submittal.
 4. The Submittal Schedule shall be adjusted to meet the needs of the construction process and Contract Schedule. Submit digital copy of the Submittal Schedule after it is completed and each time it is updated by Contractor.

1.3 SHOP DRAWINGS

- A. Present information required on Shop Drawings in a clear and thorough manner. Identify details by reference to drawing and detail, schedule, or room numbers shown and specified. The room numbers referenced or shown shall be the University-assigned room numbers, which Contractor can obtain from University's Representative.

1.4 PRODUCT DATA

- A. Preparation:
1. Clearly mark each copy to identify pertinent products or models.
 2. Show performance characteristics and capacities.
 3. Show dimensions and clearances required.
 4. Show wiring or piping diagrams and controls.
- B. Manufacturers' standard schematic drawings and diagrams:
1. Modify the standard schematic drawings and other diagrams to delete information which is not applicable to the Work.
 2. Supplement standard information to furnish information specifically applicable to the Work.

1.5 SAMPLES

- A. Office Samples shall be of sufficient size and quality to clearly illustrate the following:
 - 1. Functional characteristics of the products, with integrally related parts and attachment devices.
 - 2. Full ranges of color, texture, and pattern.
- B. Field Samples and Mock-Ups:
 - 1. Erect at the Project site, at a location as directed by University's Representative.
 - 2. Size: As specified.
 - 3. Fabricate each Sample and mock-up to be complete and fully finished.
 - 4. Remove mock-ups at conclusion of Work.

1.6 CONTRACTOR'S REVIEW OF SUBMITTALS

- A. Review, mark up as appropriate, and stamp Shop Drawings, Product Data, and Samples prior to submission. Submittals shall clearly show that they have been reviewed by Contractor for conformance with the requirements of the Contract Documents and for coordination of the Work.
- B. Determine and Verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with Contract Documents.
- C. Coordinate each submittal with requirements of the Work and of the Contract Documents.
- D. Notify University's Representative in writing, at time of submission, of any changes in the submittals from requirements of the Contract Documents.
- E. Begin no fabrication or Work which requires submittals until the return of University's Representative's final reviewed submittals.

1.7 SUBMISSION REQUIREMENTS

- A. Unless otherwise approved in advance by University's Representative, all submittals shall be in digital format (PDF in Optical Character Recognition [OCR]).
- B. Make submittals promptly in accordance with the Submittal Schedule and in such sequence as to cause no delay in the Work or in the work of any Separate Contractor.
- C. Number of Submittals Required:
 - 1. Shop Drawings: Submit (1) digital copy identified by section number and contents (i.e. Sec 05 1200 – Shop Drawings – Structural Steel). After checking, University's Representative will return the copy to Contractor.
 - 2. Product Data, Qualifications and Other Submittals: Submit (1) digital copy which will be retained by University's Representative. Each submittal (i.e. product literature, test reports, proof of qualifications, etc.) shall be submitted as individual files identified by their section number and contents. See examples below:
 - a. Sec 03 2600 – Test Report – Post Installed Anchors.
 - b. Sec 06 4116 – Qualifications – Casework Manufacturer.
 - 3. Samples: Submit the number specified in the Section which requires them.
- D. Submittals shall contain:
 - 1. Date of submission and dates of any previous submissions.
 - 2. Project name and number.
 - 3. Contract identification.
 - 4. The names of:
 - a. Contractor.
 - b. Subcontractor.
 - c. Supplier.
 - d. Manufacturer.
 - 5. Identification of the product, with the Specification Section number.
 - 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.
 - 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.
- E. Resubmission Requirements:
 - 1. Shop Drawings and Product Data:
 - a. Revise Shop Drawings or Product Data, and resubmit as specified for the initial submittal.
 - b. Identify any changes which have been made other than those requested.
 - c. Note any departures from the Contract Documents or changes in previously reviewed submittals which were not commented upon by University's Representative.
 - 2. Samples: Submit new samples as required for initial submittal.

- F. Distribution:
1. Distribute digital copies of Shop Drawings and Product Data, which carry University's Representative's review stamp, to the following locations:
 - a. Contractor's Project site file.
 - b. As-built files maintained by Contractor.
 - c. Separate Contractors.
 - d. Subcontractors.
 - e. Supplier or manufacturer.
 2. Distribute samples which carry University's Representative's review stamp as directed.
- G. University's Representative's Review: University's Representative will review Contractor's submittals, such as Shop Drawings, Product Data, and Samples, for the limited purpose of checking for conformance with information given and the design concept expressed 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.
- H. Submittal of Qualifications: Unless otherwise specified, when technical specification sections or drawings identify qualification criteria (prior experience; certification; manufacturer approval; etc.) for any entity (installer; manufacturer; engineer; testing agency; etc.), Contractor shall submit proof that the entity meets said criteria at least 15 days prior to start of the applicable work.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 13
SPECIAL PROJECT PROCEDURES

1. GENERAL

1.1 HAZARDOUS MATERIALS PROCEDURES

- A. Refer to General Conditions Article 3.19.
- B. Lead Based Paint (LBP):
 - 1. Lead coatings may exist on this Project site, and Work may involve the demolition, removal and disposal of materials coated in LBP. University will disclose all known information about such hazards, including location and quantity of lead in coating materials. If further information is desired, Contractor shall furnish sampling and analysis.
 - 2. Where LBP is determined or suspected to exist, Contractor shall comply with all regulations pertaining to its removal, including the Cal/OSHA Lead Construction Standard (CCR Title 8 section 1532.1), CDPH Work Practices for Lead-Based Paint and Lead Hazards (CCR Title 17, Div 1 Chap 8) and the General Industry Safety Orders hazard communication requirements (CCR Title 8 section 5194). Contractor shall furnish all required employee monitoring, personal protective equipment, and engineering controls designed to minimize lead exposures. Contractor is responsible for characterization and disposal of all lead-containing waste and debris. University will furnish environmental monitoring.
 - 3. During construction and demolition work, Contractor shall prevent lead dust contamination of surrounding areas. Contractor shall contact University's Office of Environment, Health & Safety regarding all Project elements which may result in significant migration of lead-containing materials off the Project site. Currently, the Department of Toxic Substances Control does not generally consider intact painted building materials to be hazardous wastes. Paint separated from its substrate shall be evaluated independently from the building material to determine proper management. Materials or solvents meeting the requirements of a Federal Hazardous Waste as determined by CCR Title 22 shall be disposed of at a location approved in advance by University's Office of Environment, Health & Safety.
 - 4. When an employee may be occupationally exposed to lead-containing coatings or paint associated with construction and/or maintenance activities, Contractor is responsible for complying with Cal/OSHA Lead Construction Standard (CCR Title 8, Section 1532.1).

1.2 HAZARDOUS MATERIAL STORAGE

- A. Materials: In occupied building areas, only sufficient materials and flammable or toxic substances necessary for the Work being performed that day or shift shall be brought into the building and work areas. In no case shall flammable or toxic substances be stored in the building, and these substances shall be immediately removed from the building when not needed and not later than the end of the day's Work.

1.3 NOT USED

1.4 NOT USED

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 43
ENVIRONMENTAL PROCEDURES

1. GENERAL

1.1 DUST CONTROL, AIR POLLUTION AND ODOR CONTROL

- A. Contractor shall employ measures to prevent the creation of dust, air pollution and odors.
1. Comply with SCAQMD Rules 401, 402 and 403.
 2. Unpaved areas where vehicles are operated shall be periodically wetted down or given an equivalent form of treatment as defined in Air Quality Management District (AQMD) Rule 403 to eliminate dust formation.
 3. All volatile liquids including fuels or solvents shall be stored in closed containers.
 4. No open burning of debris, lumber or other scrap will be permitted.
 5. Equipment shall be maintained in a manner to reduce gaseous emissions.
 6. Use alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, unleaded gasoline) and low-emission diesel construction equipment to the extent that the equipment is readily available and cost effective.
 7. Stockpiles of excavated materials shall be covered with material approved by University's Representative.
 8. Refer to Section 01 74 00, CLEANING & WASTE MANAGEMENT, Paragraph 3.1.B, for silt clean up.

1.2 NOISE CONTROL

- A. The following noise control procedures shall be employed:
1. Maximum Noise: The Contractor shall use equipment and methods during the course of this work that are least disruptive to adjacent offices or residences. Noise levels for trenchers, graders, trucks and pile drivers shall not exceed 90 dBA at 50 feet as measured under the noisiest operating conditions. For all other equipment, noise levels shall not exceed 85 dBA at 50 feet.
 2. Equipment: Jack hammers shall be equipped with exhaust mufflers and steel muffling sleeves. All diesel equipment shall have exhaust muffled. Air compressors shall be of a quiet type such as a "whisperized" compressor.
 3. Operations: Machines shall not be left idling. Electric power shall be used in lieu of internal combustion engine power wherever possible. Equipment shall be maintained to reduce noise from vibration, faulty mufflers, or other sources.
 4. Scheduling: Noisy operations shall be scheduled so as to minimize their disturbance to occupied adjacent areas and duration at any given location.

1.3 COMBUSTION CONTROL

- A. The following combustion control procedures shall be employed:
1. The Contractor shall stage any propane or combustion engine equipment outside of the parking structure or use electric powered equipment; otherwise, Contractor shall provide a Carbon Monoxide (CO) Health & Safety Plan (HASP) and provide direct reading instrumentation to measure Carbon Monoxide (CO), Oxygen and % Lower Explosive Limit (LEL).

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 41 00
REGULATORY REQUIREMENTS

1. GENERAL

1.1 DESCRIPTION

- A. The Work shall be performed in accordance with Applicable Code Requirements and applicable requirements of all other regulatory agencies, including the following:
1. California Code of Regulations (CCR), Title 8, Industrial Safety.
 2. CCR, Title 13, Hazardous Materials Transportation.
 3. CCR, Title 17, Radiation Safety.
 4. CCR, Title 19, Public Safety.
 5. CCR, Title 20, Public Utilities and Energy.
 6. CCR, Title 21, Public Works.
 7. CCR, Title 23, Underground Storage Tank Regulations.
 8. CCR, Title 24
 - a. Part 1, 2019 Building Standards Administrative Code.
 - b. Part 2, 2019 California Building Code Vol. 1 and 2 (Based on 2018 IBC).
 - c. Part 2.5, 2019 California Residential Code (Based on 2018 IRC).
 - d. Part 3, 2019 California Electrical Code (Based on 2017 NEC).
 - e. Part 4, 2019 California Mechanical Code (Based on 2018 UMC).
 - f. Part 5, 2019 California Plumbing Code (Based on 2018 UPC).
 - g. Part 6, 2019 California Energy Code.
 - h. Part 7 (This part is now Vacant: formerly California Elevator Construction Safety Code. See California Regulations Title 8).
 - i. Part 8, California Historical Building Code.
 - j. Part 9, 2019 California Fire Code (Based on 2018 IFC).
 - k. Part 10, 2019 California Existing Building Code (Based on 2018 IEC).
 - l. Part 11, 2019 California Green Building Standards Code (CALGreen).
 - m. Part 12, 2019 California Referenced Standards Code.
 9. CCR, Title 25, Housing and Community Development.
 10. CCR, Title 26, Toxics.
 11. National Fire Protection Association (NFPA): Use current edition of NFPA shown in Chapter 35 of the 2019 California Building Code (CBC).
- B. When the California Building Code does not specifically cover any subject relating to building design and construction, recognized fire prevention engineering practices shall be employed. The following may be used as authoritative guides when determining recognized fire prevention engineering practices:
1. The National Fire Codes.
 2. The Fire Protection Handbook.
- C. Unless otherwise specified, specific references to codes, regulations, standards, manufacturers' instructions, or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the latest edition of each in effect at the date of submission of bids, or the date of the Change Order or Field Order, as applicable.
- D. Representatives of the Los Angeles City Fire Department, Division of State Architect (DSA) and California Occupational Safety and Health Act (Cal/OSHA) have the right to inspect all Work and workplace conditions.
- E. In accordance with California Labor Code ("CLC") Section 3099.2, all employees performing electrical work for a contractor/subcontractor holding a C-10 license shall become certified pursuant to CLC Section 3099.

1.2 CONFLICTS

- A. If a conflict exists between referenced regulatory requirements or between referenced regulatory requirements and the Contract Documents, Contractor shall notify University's Representative and request that the conflict be resolved. The fact that the Contract Documents may establish higher or more costly requirements than the minimum Code or other regulatory requirements referenced above shall not constitute a "conflict."

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 42 00
REFERENCES

1. GENERAL

1.1 ABBREVIATIONS

- A. The following abbreviations of organizations may be used in the Contract Documents.
- | | |
|----------|---|
| AA | Aluminum Association |
| AABC | Associated Air Balance Council |
| AAMA | Architectural Aluminum Manufacturers Association |
| AAN | American Association of Nurserymen, Inc. |
| AASHTO | American Association of State Highway and Transportation Officials |
| ABPA | Acoustical and Board Products Association |
| ACI | American Concrete Institute |
| ACIL | American Council of Independent Laboratories |
| ACPA | American Concrete Pipe Association |
| ADA | Americans with Disabilities Act |
| ADC | Air Diffusion Council |
| AFBMA | Anti-Friction Bearing Manufacturers Association |
| AFI | Air Filter Institute |
| AGA | American Gas Association |
| AGC | Associated General Contractors of America |
| AHERA | Asbestos Hazard Emergency Response Act |
| AI | The Asphalt Institute |
| AIA | American Institute of Architects |
| AIMA | Acoustical Insulating Material Association |
| AISC | American Institute of Steel Construction, Inc. |
| AISI | American Iron and Steel Institute |
| AITC | American Institute of Timber Construction |
| ALSC | American Lumber Standards Committee |
| AMCA | Air Moving and Conditioning Association |
| ANSI | American National Standards Institute |
| AOAC | Association of Official Analytical Chemists |
| APA | American Plywood Association |
| API | American Petroleum Institute |
| AQMD | Air Quality Management District |
| ARI | Air-Conditioning and Refrigeration Institute |
| ASA | American Standards Association |
| ASAHC | American Society of Architectural Hardware Consultants |
| ASHRAE | American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. |
| ASME | American Society of Mechanical Engineers Association, Inc. |
| ASTM | American Society for Testing and Materials |
| AWCI | Association of Wall and Ceiling Industries |
| AWI | Architectural Woodwork Institute |
| AWPA | American Wood-Preservers' Association |
| AWPB | American Wood Preservers Bureau |
| AWPI | American Wood Preservers Institute |
| AWS | American Welding Society, Inc. |
| AWWA | American Water Works Association, Inc. |
| BHMA | Builders Hardware Manufacturers Association |
| BIA | Brick Institute of America |
| BOCA | Building Officials and Code Administrators |
| CAC | California Administrative Code |
| Cal/OSHA | California Occupational Safety and Health Act |
| CARB | California Air Resources Board |
| CBM | Certified Ballast Manufacturers Association |
| CCR | California Code of Regulations |
| CDA | Copper Development Association, Inc. |
| CE | Corps of Engineers (U. S. Dept. of the Army) |
| CEC | California Energy Commission |
| CESO | California Elevator Safety Order |
| CGA | Compressed Gas Association |
| CLFMI | Chain Link Fabric Manufacturers Institute |
| CLPCA | California Lathing and Plastering Contractors Association, Inc. |
| CPSC | Consumer Product Safety Commission |
| CRSI | Concrete Reinforcing Steel Institute |
| CS | Commercial Standards of NBS (U.S. Dept. of Commerce) |
| CTI | Cooling Tower Institute |

CTLA	Council of Tree and Landscape Appraisers
DHI	Door & Hardware Institute
DISS	Diameter Index Safety System
EPA	Environmental Protection Agency
ETL	Electrical Testing Laboratories
FFDA	Federal Food and Drug Administration
FIA	Factory Insurance Association
FM	Factory Mutual Engineering Corp.
FS	Federal Specification
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America (formerly FGMA)
GFI	Ground Fault Interrupter
GBCI	Green Building Certification Institute
HCAI	Health Care Access and Information (formerly OSHPD – Office of Statewide Health Planning and Development)
HEPA	High Efficiency Particulate Air
HI	Hydronics Institute
HMI	Hoists Manufacturers Institute
HMMA	Hollow Metal Manufacturers Association
HPMA	Hardwood Plywood Manufacturers Association
IBEW	International Brothers of Electrical Workers
IBR	Institute of Boiler and Radiator Manufacturers
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineering Association
IEEE	Institute of Electrical and Electronic Engineers
IEC	International Electric Code
IES	Illuminating Engineers Society
IGCC	Insulation Glass Certification Council
ISA	Instrument Society of America
LEED	Leadership in Energy & Environmental Design
LIA	Lead Industries Association
MFMA	Maple Flooring Manufacturers Association
MIA	Marble Institute of America
MIL	U.S. Government, Military Specification
MLSFA	Metal Lath/Steel Framing Association
MOC	Ministry of Communications General
MSHA	Mine Safety and Health Administration
MSS	Manufacturers Standardization Society of Valve and Fittings
NAA	National Arborist Association
NAAB	National Association of Air Balance
NAAMM	The National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBFU	National Board of Fire Underwriters
NBGQA	National Building Granite Quarries Association, Inc.
NBHA	National Builders' Hardware Association
NBS	National Bureau of Standards (U. S. Dept. of Commerce)
NCMA	National Concrete Masonry Association
NCPWB	National Certified Pipe Welding Bureau
NEBB	National Environmental Balancing Bureau
NEC	National Electrical Code by NFPA
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NESHAP	National Emissions Standard for Hazardous Air Pollutants
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NHLA	National Hardwood Lumber Association
NICET	National Institute for Certification in Engineering Technologies
NIOSH	National Institute of Occupational Safety and Health
NPA	National Particleboard Association
NRC	Noise Reduction Coefficient
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	National Sanitation Foundation
NUSIG	National Uniform Seismic Installation Guidelines
NWMA	National Woodwork Manufacturers Association, Inc.
NWWDA	National Wood Window and Door Association
OPL	Omega Point Laboratories
OSHPD	Office of Statewide Health Planning and Development

PCA	Portland Cement Association
PCB	Polychlorinated Biphenyl
PCI	Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute
PI	Perlite Institute
PS	Product Standard of NBS (U.S. Dept. of Commerce)
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service (Grading Rules)
SAE	Society of Automotive Engineers
SAS	Saudi Arabian Standard Organization
SBC	State Building Code
SCAQMD	South Coast Air Quality Management District
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joist Institute
SMACNA	Sheet Metal & Air Conditioning Contractors' National Assoc., Inc.
SPIB	Southern Pine Inspection Bureau (Grading Rules)
SSPC	Society for Protective Coatings
STC	Sound Transmission Coefficient
SWI	Sealant and Waterproofers Institute
TCA	Tile Council of America, Inc.
UBC	Uniform Building Code
UFAS	Uniform Federal Accessibility Standards
UHMW	Ultra-High Molecular Weight
UL	Underwriters' Laboratories, Inc.
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
USDA	United States Department of Agriculture
USGBC	United States Green Building Council
USSG	United States Steel Gauge
WCLIB	West Coast Lumber Inspection Bureau (Grading Rules)
WH	Warnock Hersey
WIC	Woodwork Institute of California
WWPA	Western Wood Products Association (Grading Rules)

1.2 **DEFINITIONS**

- A. The following terms, when used on the Drawings or in the Specifications, shall have the following meanings:
1. **ADEQUATE; CAREFUL; PROPER; SUFFICIENT; SUITABLE; SATISFACTORY:** These terms refer to interpretation by University's Representative, and are subject to approval upon request.
 2. **APPLICABLE CODES:** "Codes listed in Section 01 41 00, REGULATORY REQUIREMENTS."
 3. **APPROVED:** "As approved by University's Representative."
 4. **AS DIRECTED:** "As directed by University's Representative."
 5. **AS REQUIRED:** "As required by Applicable Code Requirements; by good building practice; by the conditions prevailing; by the Contract Documents; by University, or by University's Representative".
 6. **AS SELECTED:** "As selected by University's Representative."
 7. **BY OTHERS:** Work on the Project that is outside the scope of Work to be performed by Contractor under the Contract, but that will be performed by University, Separate Contractors, or other means.
 8. **EQUAL:** Of same quality, appearance, and utility to that specified, as determined by University's Representative. Contractor bears the burden of proof of equality.
 9. **FURNISH:** "Supply only, not install (unless required to be provided or installed elsewhere in the Contract Documents)."
 10. **INCLUDE/INCLUDING:** "Include/including, without limitation."
 11. **INSTALL:** "Install or apply only, not furnish (unless required to be provided or furnished elsewhere in the Contract Documents)".
 12. **INSTALLER:** Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform particular construction operation, including installation, erection, application, and similar operations.
 13. **MANUFACTURER'S DIRECTIONS/INSTRUCTIONS/RECOMMENDATIONS/SPECIFICATIONS:** Manufacturer's written directions, instruction, recommendations, specifications.
 14. **MUST; SHALL; TO; WILL:** When used as a directive to Contractor, these terms indicate a mandatory action.
 15. **NECESSARY:** "Essential to completion of Work".
 16. **UNIVERSITY-FURNISHED, CONTRACTOR INSTALLED:** "To be furnished by University at

- its cost and installed by Contractor as part of the Work."
17. PROJECT SITE; JOB SITE: Geographical location of the Project.
18. PROVIDE: "Furnish and install".
19. SHOWN: "As indicated on the Drawings".
20. SPECIFIED: "As written in the Contract Documents."
21. SUBMIT: "Submit to University's Representative."

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 43 00
QUALITY ASSURANCE

1. GENERAL

1.1 GENERAL

- A. Definitions:
1. The term "University's Testing Laboratory" means a testing laboratory retained and paid for by University for the purpose of reviewing material and product reports and performing other services as determined by University.
 2. The term "Contractor's Testing Laboratory" means a testing laboratory retained and paid for by Contractor to perform the testing services required by the Contract Documents. 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, the testing laboratory of a trade association, the certified laboratory of a supplier or manufacturer, Contractor's own forces, or other organization. Contractor's Testing Laboratory shall have performed testing of the type specified for at least 5 years.
- B. Tests, inspections, and acceptances of portions of the Work required by the Contract Documents or by Applicable Code Requirements shall be made promptly to avoid delay of the Work. Except as otherwise specified, Contractor shall make arrangements for such tests, inspections, and approvals with Contractor's Testing Laboratory. Contractor shall give University's Representative timely notice of when and where tests and inspections are to be made.
- C. If such procedures for testing, 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.
- D. If University's Representative is to observe tests, inspections, or make acceptances required by the Contract Documents, University's Representative will do so promptly and, where practicable, at the normal place of testing.
- E. Do not incorporate into the Work materials represented by samples under test without the written approval of University's Representative.

1.2 CONTRACTOR'S RESPONSIBILITIES REGARDING UNIVERSITY'S TESTING LABORATORY

- A. Secure and deliver to University's Testing Laboratory specified 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 digital copy of product test reports as specified.
- D. Furnish incidental labor and facilities:
1. To furnish University's Testing Laboratory access to 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 inspections and tests.
 4. For storage and curing of test samples.
- E. Submit written notice to University's Representative and University's Testing Laboratory 72 hours in advance of operations to allow for assignment of personnel and scheduling of tests.
- F. When tests or inspections are not performed after such notice, Contractor shall reimburse University for University's Testing Laboratory personnel and travel expenses incurred.

1.3 TESTS, INSPECTIONS AND APPROVALS

- A. Certain portions of the Work will be tested and/or inspected 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. 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 than University's Representative, of the date fixed for such inspection.
- C. Re-examination of questioned work may be ordered by University's Representative.
- D. The Office of Statewide Health Planning and Development (OSHPD) requires a list of structural tests and inspections to be included in the Specifications for hospital projects. Structural tests and inspections required by OSHPD are listed in the special OSHPD Structural Tests and Inspections form attached at the end of this Section.

1.4 ADDITIONAL TESTING AND INSPECTION

- A. If initial tests or inspections made by University's Testing Laboratory or University'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.
1. If such additional tests or inspections establish that such portion of the Work complies with the Contract Documents, all costs of such additional tests or inspections shall be paid by

- University.
2. 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 inspections, and all other costs resulting from such failure, including compensation for University's Representative and University's consultants, shall be deducted from the Contract Sum.

1.5 TEST REPORTS

- A. University's Testing Laboratory and Contractor's Testing Laboratory shall submit digital copy of all reports to University's Representative, indicating observations and results of tests and indicating compliance or non-compliance with the Contract Documents.
- B. University's Representative will distribute digital copy of the reports to University, University's Consultants, and Contractor.

1.6 GEOTECHNICAL ENGINEER

- A. If applicable, University will retain and pay the expenses of a Geotechnical Engineer to perform inspection, testing, and observation functions specified by University. The Geotechnical Engineer shall communicate only with University and University's Representative. University's Representative will then give notice to Contractor, with a copy to University, of any action required of Contractor.

1.7 UNIVERSITY'S INSPECTORS

- A. University shall supply personnel, reporting to University's Representative, who shall observe construction in progress. Inspectors shall have the following responsibilities and limitations on authority:
1. Act under the direction of University's Representative.
 2. Observe installations and work in progress as a basis for determining conformance of the work, materials and equipment with the Construction Documents. Inspector will report any discrepancies observed to University's Representative and Contractor. Only University's Representative has the authority to make approvals or rejections.
 3. Only University's Representative shall interpret the requirements of the Construction Documents. If any item is ambiguous, University's Representative shall make a written interpretation. If Contractor requests changes or modifications to the Construction 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 the monthly progress payment request before Contractor submits it to University's Representative.
 6. Assist University's Representative in reviewing the test and inspection results of testing laboratories.
 7. The Inspector 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 Inspector is not authorized to advise on or issue directions to Contractor about any aspect of construction means, methods, techniques, sequences or procedures, or relating to safety programs in connection with the Project.
- B. The failure of University, University's Representative and its representatives and consultants, or University's Inspector 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. The term "defective work" means work that is unsatisfactory, faulty, omitted, incomplete, deficient, or does not conform to the requirements of the Contract Documents, directives of University's Representative, or the requirements of any inspection, reference standard, test, or approval specified in the Contract Documents, or has been damaged prior to final completion, unless responsibility for the protection of such work has been assumed by University through beneficial occupancy in accordance with Article 9.6 of the General Conditions or through substantial completion in accordance with Article 9.7 of the General Conditions.

1.8 INSPECTION REQUESTS

- A. Contractor shall request inspection of completed portions of the Work via the UCLA Capital Programs Inspection Website (<https://inspection.capnet.ucla.edu/>) at least 72 hours in advance of the inspection to be performed. Instructions on creating a User Account will be furnished by University's Representative at the Pre-Construction Meeting. Refer to Section 01 31 19, PROJECT MEETINGS.
- B. For each inspection request received from Contractor for which University's Representative determines that such work is not ready for inspection, University will back charge Contractor the amount of (\$75.00) per hour as partial compensation for the University's Inspector's time spent to respond to the unnecessary request.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for: general acute care hospitals, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2022 CBC 1224.1).

SECTION A		PROJECT INFORMATION	
Facility #:	Facility Name:		Project #:
12127	Ronald Reagan UCLA Medical Center		S240478-19-00
Street Address:	757 Westwood Plaza		
City:	Los Angeles	County:	Los Angeles
Record Name (Scope of Project):		Parking Services - Skidata Pay Machines Installation	
Abbreviations: CAC: California Administrative Code AAMA: American Architectural Manufacturers Association CBC: California Building Code NFPA: National Fire Protection Association CEC: California Electrical Code FM: FM Approval Standards CMC: California Mechanical Code DPOR: Design Professional of Record CPC: California Plumbing Code			
			Version: R04.37

Testing, Inspection, and Observation Stages

Stage No.	Stage Name	Stage Scope / Description
1		

DESIGN PROFESSIONAL OF RECORD RESPONSIBILITY

The administration of the work of construction, including this TIO, shall be under the responsible charge of an architect and structural engineer. When a structural engineer is not substantially involved, the architect shall be solely responsible. Where neither structural nor architectural elements are substantially involved, a mechanical or electrical engineer registered in the branch of engineering most applicable to the project may be in responsible charge. (CAC 7-141(a))

Note: HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. Field staff will issue subsequent "TIO Program Approval".

The "TIO Program Approval" from HCAI field staff must be obtained and included with the notice of start of construction required by CAC Section 7-137(a)4 and 7-145(a)5.A)

Construction shall not commence until the health facility has obtained from HCAI "TIO Program Approval". (CAC Section 7-135(a)3)



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION B			NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.				
Facility #:		Facility Name:		Project #:			
12127		Ronald Reagan UCLA Medical Center		S240478-19-00			
Stage 1:			Select with "X" or provide required OPAA information:				
Index #	Stage 1 Required (Select with "X")	TESTS	Samples of Test & Inspection Reports Included	OPAA No. and Expiration Date	Responsible Approved Agency And/Or Individual (Identify Individual)	Compliance Verification by IOR (Initial/Date)	HCAI/FDD Use (Initial/Date)

STRUCTURAL TESTS

Concrete

B-C1	X	Concrete CBC 1705A.3, 1903A.6 & 1910A.1; ACI 318 1.9.1 & 26.4.1.1 Cementitious materials			TBD		
B-C2	X	Concrete CBC 1705A.3, 1903A.5; ACI 318 1.9.1 & 26.4.1.2 Aggregates/Reactive aggregates			TBD		
B-C3	X	Concrete CBC 1705A.3; ACI 318 26.4.1.4; ASTM C1602 Water			TBD		
B-C4	X	Concrete CBC 1705A.3 & 1905A.1.17; ACI 318 26.12 Strength test			TBD		
B-C13	X	Post-installed anchors CBC 1910A.5 Installation verification test (includes adhesive, shot pins and mechanical anchors)			TBD		

Steel

B-S4	X	Steel CBC 1705A.2.5 Nondestructive testing of welds			TBD		
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ELECTRICAL TESTS

B-E12	X	Torque Electrical Connections CEC 110.3(B) & 110.14(D)			TBD		
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Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION C			NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.				
Facility #:	Facility Name:	Project #:					
12127	Ronald Reagan UCLA Medical Center	S240478-19-00					
Stage 1:		Select with "X" or provide required OPAA information:					
Index #	Stage 1 Required (Select with "X")	ON-SITE SPECIAL INSPECTIONS	Samples of Test & Inspection Reports Included	OPAA No. and Expiration Date	Responsible Approved Agency And/Or Individual (Identify Special Inspector)	Compliance Verification by IOR (Initial/Date)	HCAI/FDD Use (Initial/Date)
STRUCTURAL SPECIAL INSPECTIONS							
Concrete							
C-C1	X	Concrete CBC 1705A.3; ACI-318 26.5.2 & 26.13 Placement of concrete			TBD		
C-C2	X	Concrete CBC 1705A.3; ACI-318 26.4.1.5 Admixtures			TBD		
C-C3	X	Concrete CBC 1705A.3; ACI-318 26.4 Mix design			TBD		
C-C4	X	Concrete CBC 1705A.3; ACI-318 26.13 Reinforcing steel & prestressing steel			TBD		
C-C5	X	Concrete CBC 1705A.3 CIP & post-installed anchors			TBD		



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION D		NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.					
Facility #:		Facility Name:		Project #:			
12127		Ronald Reagan UCLA Medical Center		S240478-19-00			
Stage 1:				Select with "X" or provide required OPAA information:			
Index #	Stage 1 Required (Select with "X")	OFF-SITE SPECIAL INSPECTIONS	Samples of Test & Inspection Reports Included	OPAA No. and Expiration Date	Responsible Approved Agency And/Or Individual (Identify Special Inspector)	Compliance Verification by IOR (Initial/Date)	HCAI/FDD Use (Initial/Date)
No Requirements for this Section of the TIO							



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION E		REQUIRED COMPLIANCE FORMS			
Facility #:	Facility Name:		Project #:		
12127	Ronald Reagan UCLA Medical Center		S240478-19-00		
Form #	Required (Select with "X")	DOCUMENT NAME	Responsible Designer Or Installing Contractor	Compliance Verification by IOR (Initial/Date)	HCAI/FDD Use (Initial/Date)
No Requirements for this Section of the TIO					



Testing, Inspection, and Observation Program

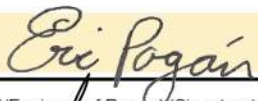
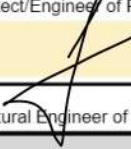
2022 California Building Standards Code - OSHPD 1

[illegible]



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION H	HCAI REVIEWED	
Facility #:	Facility Name:	Project #:
NOTE: When a structural engineer has been delegated responsibility for a portion of this project his or her signature is also required.		
Submitted By:		
I have reviewed the approved construction documents for this project and all tests and special inspections required by Code are marked as "required" on this form.		
Eric Pagan		04/16/2024
Architect/Engineer of Record (Print Name)	Architect/Engineer of Record (Signature)	Date
PETER SARKIS		04/16/2024
Structural Engineer of Record (Print Name)	Structural Engineer of Record (Signature)	Date
FOR HCAI USE		
TIO Program Reviewed by HCAI Plan Review Staff:		
 TIO REVIEWED Department of Health Care Access & Information Office of Statewide Hospital Planning & Development 7/12/2024, 12:13:36 PM S240478-19-00 Dunne Lee		
Note: HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. Field staff will issue subsequent "TIO Program Approval".		



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION I	TIO PROGRAM APPROVAL		
Facility #:	Facility Name:	Project #:	
This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for: general acute care hospitals, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2022 CBC 1224.1).			
Samples of Test and Inspection Reports are NOT required for tests performed by laboratories approved through OPAA Program			
<i>All test and special inspection reports shall be submitted to the IOR, hospital owner, architect in responsible charge, and the structural engineer by the responsible approved agency and/or individual per CAC 7-149(a). The responsible approved agency and/or individual shall be employed by the health facility, owner, or governing board or authority per CAC 7-149(b).</i>			
<i>Verified compliance reports shall be signed by the individual who performed the special inspection(s) as outlined in CAC 7-151 (c). All reports shall clearly state whether the tests or special inspections were performed in accordance with the HCAI stamped approved documents and whether the results indicate compliance with those documents per CAC 7-149 (a). All IORs performing special inspections shall hold the appropriate certification and equipment, and shall obtain approval from the design professional of record and HCAI prior to performing such work.</i>			
NOTE: This Test, Inspection, and Observation Report shall be approved by HCAI field personnel prior to start of construction.			
Eric Pagan	C35033		04/16/2024
Architect/Engineer of Record (Print Name)	Professional License #	Architect/Engineer of Record (Signature)	Date
FOR HCAI FIELD STAFF USE			
TIO Program Approved by HCAI Field Staff:			
Note: HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. HCAI Field staff will issue subsequent "TIO Program Approval". If "Approved with Comments" is checked the following comments shall be resolved by the designer prior to proceeding with the related construction:			



Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

SECTION J		SUMMARY OF CHANGES TO THE TIO PROGRAM NOTE: Note all changes shall be approved as amended construction documents per CAC 7-153, or "concurrent with" as non-material alterations per CAC 7-153(b), by HCAI prior to proceeding with the related work.			
Facility #:	Facility Name:			Project #:	
12127	Ronald Reagan UCLA Medical Center			S240478-19-00	
TESTING, INSPECTION, AND OBSERVATION PROGRAM NON-MATERIALY ALTERING CHANGES BY THE ARCHITECT OF RECORD / ENGINEER OF RECORD IN RESPONSIBLE CHARGE					HCAI FDD CONCURRENCE (Initial/date)
A signature below indicates that the DPOR has verified the acceptance statements in Section I of this Form are applicable to any approved agencies/testing laboratories and special inspectors added.					
REVISION NUMBER	SYNOPSIS OF CHANGE	Architect/Engineer of Record Signature (Initial/date)	Structural Engineer of Record Signature (Initial/date)	DATE of Effective Change	

SECTION 01 45 00
QUALITY CONTROL

1. GENERAL

1.1 SUPERINTENDENT

- A. In addition to requirements specified in Article 3 of the General Conditions, submit Superintendent's qualifications showing a minimum of 5 years' experience in coordinating projects of similar scope and size as this Project within the United States.

1.1 SUPERINTENDENT

- A. Contractor shall furnish the services of the Superintendent submitted to prequalify for this project and approved by the University.
- B. Superintendent shall meet all requirements specified in Article 3 of the General Conditions and those specified in the Prequalification Questionnaire.
- C. Any replacement Superintendent shall meet all Superintendent requirements specified in the Prequalification Questionnaire and be approved in advance by the University Representative.

1.2 PROJECT MANAGER

- A. Contractor shall furnish the services of the Project Manager submitted to prequalify for this project and approved by the University.
- B. Project Manager shall meet all requirements specified in the Prequalification Questionnaire.
- C. Any replacement Project Manager shall meet all Project Manager requirements specified in the Prequalification Questionnaire and be approved in advance by the University Representative.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

1. GENERAL

1.1 DESCRIPTION

- A. Provide and maintain temporary utilities for construction operations and related necessary temporary structures. Remove them when they are no longer needed.
- B. Pay for connections for water and electricity to Project site sources.
- C. University does not guarantee amounts of water and electricity available from existing University's sources, nor will University be responsible for interruptions in service.

1.2 REQUIREMENTS OF REGULATORY AGENCIES

- A. Install and use temporary utilities in accordance with requirements specified in Section 01 41 00, REGULATORY REQUIREMENTS, and all Applicable Code Requirements.

2. MATERIALS

2.1 GENERAL

- A. Materials may be new or used, but shall be adequate for the required purposes. Their use and methods of installation shall not create unsafe conditions or violate requirements of applicable codes and requirements.

2.2 TOILET FACILITIES

- A. Toilet Facilities for Use by Contractor's Workers: Furnish and install temporary toilet facilities and maintain same in a clean and sanitary condition.
 - 1. All portable toilet facilities shall be located within the fenced Project site.
 - 2. The ratio of toilets to on-site workers shall comply with Applicable Code Requirements.

2.3 TEMPORARY TELEPHONE

- A. Telephone service will not be provided by University, except in case of emergency involving life and safety. Contractor shall use the public pay phones available on campus or, after coordinating with University's Representative, make arrangements with University's Information Technology Services (ITS) department for temporary telephone service.

2.4 TEMPORARY ELECTRIC SERVICE

- A. Furnish, install and maintain all electric power, temporary electrical equipment and connections as necessary for the Work. Contractor shall not utilize University's existing electrical system.
 - 1. There shall be no disturbance to building occupants and functions. Equipment, cables and conductors shall not prevent closing of fire labeled doors.
 - 2. Before final acceptance, all temporary equipment and connections installed by Contractor shall be removed in a manner approved by University's Representative.

2.5 TEMPORARY WATER

- A. Water service outlet shall be provided at locations where shown and as approved. Contractor shall furnish, install and maintain necessary temporary supply connections, piping, fittings, etc., as necessary for the Work. Before final acceptance, all temporary connections and piping installed by Contractor shall be removed in a manner approved by University's Representative. Water will be provided by University at no cost to Contractor for construction purposes.
 - 1. Contractor shall furnish and install a double check valve assembly, water meter, and pressure regulator, approved by University's Representative, at the point of connection to University's water system.

2.6 TEMPORARY FIRE PROTECTION

- A. Provide and maintain fire protection equipment including extinguishers, fire hoses, and other equipment as necessary for complete fire protection during the course of the Work.
 - 1. Install a reduced pressure type backflow device, approved by University's Representative, at point of connection to University's water system.
- B. Use fire protection equipment only for fighting fires.

2.7 TEMPORARY HEAT AND VENTILATION

- A. Provide temporary heat and ventilation as required to maintain adequate environmental conditions to meet specified minimum conditions for installation of materials; and to protect equipment, materials, and finishes from damage due to temperature or humidity.
- B. Provide adequate forced ventilation of enclosed areas to cure installed materials, to prevent excessive humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.

3. EXECUTION

3.1 GENERAL

- A. Comply with applicable requirements specified in Section 01 41 00, REGULATORY REQUIREMENTS, DIVISION 22, PLUMBING, Division 23, HEATING, VENTILATING AND AIR CONDITIONING, and Division 26, ELECTRICAL, as applicable.

- B. Maintain and operate systems to furnish continuous service.
- C. Modify and extend systems as required.

3.2 REMOVAL AND RECONDITIONING

- A. Remove all temporary services installed as a requirement of the Contract Documents. Restore utilities to their original condition at the completion of the Work.
- B. Legally and properly dispose of all debris resulting from removal and reconditioning operations.

END OF SECTION

SECTION 01 54 00
CONSTRUCTION AIDS

1. GENERAL

1.1 TEMPORARY STAIRS, SCAFFOLD AND RUNWAYS

- A. Provide all scaffolds, stairs, hoist plant, runways, platforms, and similar temporary construction as may be necessary for the performance of the Contract. Such facilities shall be of the type and arrangement as required for their specific use, substantially constructed throughout and strongly supported, well secured and complying with all applicable rules and regulations of the Industrial Accident Commission of the State of California and all applicable laws and ordinances. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.
- B. Arrange for construction equipment access to areas which may be partly blocked by existing obstructions.

1.2 TEMPORARY HOISTS

- A. Provide temporary hoist as required by job conditions for the installation of materials and equipment. Install and operate in accordance with all safety regulations of authorities having jurisdiction. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.

1.3 TRENCHING AND SHORING

- A. All trenching and shoring work shall be in full accordance with, but not necessarily limited to the following codes and regulations: Titles 8, 19, 21, 22, & 24, State of California, California Code of Regulations (CCR), California Occupational Safety and Health Administration (OSHA).
1. General Protection. Pursuant to Labor Code Sections 6705 and 6707, Contractor shall include in its base bid all costs incident to the provision of adequate sheeting, shoring, bracing or equivalent method for the protection of life and limb which shall conform to the applicable Federal and State Safety Orders.
 2. Before beginning excavation five feet or more in depth, Contractor shall submit to University's Representative a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. The proposed plan shall comply with the standards established by the California Construction Safety Order and Title 24 of the California Code of Regulations (CCR). If the detailed plan varies from such shoring system standards, it shall be prepared by a California registered civil or structural engineer whose name and registration number shall be indicated on the drawing. If a dispute arises as to whether the plan must be prepared by a registered civil or structural engineer, University's Representative's determination of the matter shall be final and conclusive on Contractor and University. The cost of any required engineering services shall be borne by Contractor and shall be deemed to have been included in the Contract Sum.
 3. Neither the review nor approval of any plan showing the design of shoring, bracing, sloping, or other provisions for worker protection shall relieve Contractor from its obligation to comply with Construction Safety Orders Standards and CCR, Title 24, for the design and construction of this protective Work, and Contractor shall indemnify University and University's Representative from any and all claims, liability, costs, actions and causes of action arising out of or related to the failure of these protective systems. Contractor shall defend University and its officers, employees, and agents, and University's Representative in any litigation of proceeding brought with respect to the failure of these protective systems.
 4. Comply with State of California Construction Safety Orders, Article 6 - Excavations, Trenches, Earthwork – whether or not the excavation, trench, or earthwork is five feet or more in depth.

1.4 USE OF CRANE

- A. If Contractor elects to utilize a crane in the performance of Work of this Project, operation of crane shall be in accordance with California Code of Regulations, Title 8, and the following requirements.
1. To ensure compliance with these guidelines, notify University's Environment, Health and Safety Department prior to crane use. Call (310) 825-5689 or email cranes@ehs.ucla.edu.
 2. Entrance and exit path to and from the Project site shall be evaluated and predetermined to ensure most appropriate and safest route. Alternate access routes may be necessary depending on the size and tonnage of the crane used.
 3. The crane travel path shall be predetermined by a California registered structural engineer to ensure the safety and integrity of underground vaults, tunnels and equipment. Depending on the size of the crane, alternative routes may be necessary.
 4. Contractor, in consultation with University's Representative, shall predetermine the crane operation location. Contractor shall arrange for inspection of the location by University Fire & Life Safety Division prior to crane lift commencement.
 5. In accordance with California Code of Regulations, Title 8, Section 5025, a certificate indicating that all required tests and examinations have been performed, including all identified defects that have been corrected, shall be made available with each crane or at the Project site. The certificate shall verify that the equipment is in safe operating condition at the

- time of examination.
6. In accordance with California Code of Regulations, Title 8, Section 5006.1, Contractor shall only permit operators who have a valid certificate of competency (certificate) issued by an Accredited Certifying Entity. Certificates shall be valid for a maximum of 5 years.
 - a. Exception to Section 5006.1: Mobile cranes having a boom length of less than 25 feet or a maximum rated load capacity of less than 15,000 pounds.
 7. Comply with the following during crane lift operations:
 - a. Building occupants and/or construction personnel may be required to evacuate areas under the lift and swing radius. University Fire & Life Safety Division shall predetermine this requirement on a per project basis. If evacuation of building occupants is not feasible, document why relocation/evacuation is not feasible in accordance with California Code of Regulations, Title 8, Section 5002.
 - b. The entire swing radius shall be barricaded using, at a minimum, safety cones, barrier tape, and/or saw horses. Furnish flagpersons to monitor and control all traffic. Vehicular and pedestrian traffic is not permitted under the load at any time.
 - 1) At Contractor's option, it may hire University Community Service Officers (CSOs) to assist in traffic control.
 - c. The immediate area shall be kept clear of all vehicles and equipment at all times. Only trucks that are supplying equipment to be lifted may be located in the immediate area.
 8. All University personnel working in the lift area shall wear appropriate hard hats, safety shoes, and safety glasses.
 9. As necessary, notify or coordinate crane lift operations with the following departments:
 - a. Cal-OSHA - Tower Crane Certification Unit;
 - b. University's Facilities Management - Outage Notification Coordinator: Robert Parker (telephone 310-206-9411);
 - c. Capital Programs, Structural Engineers;
 - d. University's Facilities Management - Grounds Senior Superintendent for landscape protection (telephone 310-825-1827);
 - e. Building Coordinators (Employee Notification);
 - f. University's Transportation Services - Traffic Management (telephone 310-825-0702);
 - g. University's Environment, Health and Safety Department (telephone 310-825-5689 / email cranes@ehs.ucla.edu);
 - h. UC Police Department (Escorts, CSOs, etc.).
- B. Additional Requirements for Use of Cranes Outside Construction Fences:
1. Pedestrians shall not be allowed to walk under the load at any time. To ensure this, the entire swing radius shall be barricaded and traffic in both directions shall be prohibited. Objects to be used as pedestrian barricades shall include barrier tape, cones, saw-horses, lift personnel, flagpersons, CSOs or any combination of these.
 2. Furnish the services of flagpersons, CSOs, etc. to control or prohibit pedestrian access when the lift area is immediately adjacent to high traffic areas, including entrances to buildings and major walkways. One flagperson/CSO is recommended for each point of entry into the lift area.
 3. It may be necessary to evacuate portions of the top two floors when a crane is used to deliver or remove equipment and materials from the roof of an occupied building. Occupants shall be evacuated in the areas immediately beneath the swing radius of the boom, from rooms with external facing windows and areas immediately beneath the pick or drop location. University's Representative and the University Fire & Life Safety Division representative will predetermine the extent of the evacuation.
 4. Engineering calculations from a California registered civil or structural engineer may be used in lieu of evacuation building occupants from areas beneath crane activities.
- C. Additional Requirements for Use of Cranes Entirely Inside Construction Fences:
1. Contractor shall ensure that both the crane and crane operators are currently certified under Cal-OSHA requirements. Contractor shall submit digital copy of such documentation to University's Representative in advance.
 2. Contractor shall ensure that subcontractors working adjacent to crane activities have administered "crane awareness safety" or equivalent training to their employees. Contractor shall submit digital copy of such documentation to University's Representative in advance.
 3. At all times that the boom or load travels outside the perimeter of the construction fence, the crane operation shall be immediately subject to the additional requirements for use of cranes outside construction fences.
 4. When the crane or load encroaches upon University streets, and barricades and warning signs cannot control moving traffic, the crane operation shall be conducted using flagpersons trained in accordance with Cal-OSHA.
- D. References:
1. California Code of Regulations, Title 8, GISO Sections 344.60-344.81:
 - a. License Requirements - Crane and Derrick Certification.
 - b. Tower Cranes – Operating Permit and Certification Requests.

- c. Certification Requirements.
- 2. California Code of Regulations, Title 8, GISO Sections 4884 – 5049:
 - a. Cranes and Other Hoisting Equipment.
 - b. Overhead Loads.
 - c. Mobile Crane and Tower Crane - Operator Qualifications and Certification.
- 3. California Code of Regulations, Title 8, CSO Sections 1597 – 1599:
 - a. Vehicles, Traffic Control, Flaggers, Barricades and Warning Signs.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 55 00
VEHICULAR ACCESS & PARKING

1. GENERAL

1.1 USE OF PUBLIC THOROUGHFARES AND UNIVERSITY ROADS

- A. 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.
- B. 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.
- C. 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.
- D. Provide protection against damage whenever it is necessary to cross existing sidewalks, curbs, and gutters in entering upon the University roads. Repair and make good at the expense of Contractor all damages thereto, including damage to existing utilities and paving, arising from the operations under the Contract.
- E. Truck staging is not allowed on campus or on any residential street surrounding the campus.

1.2 PARKING

- A. No vehicle shall be allowed to park on the UCLA campus without displaying the appropriate permit(s), as follows:
 - 1. For Parking in Designated Parking Space (i.e. Parking Structure, Open Lot) and For Construction Parking at the Project Site in Non-Fenced Areas on Hardscape: A valid parking permit is required. Permits may be purchased by the day, week, month or quarter on an as-available basis. Permits may be purchased on a daily basis from any Parking Service Kiosk. For longer term parking, permits must be purchased directly from Parking Service located at 555 Westwood Plaza (Parking Structure Number 8). Permits are valid in the area of assignment only. Violators are subject to citation.
 - 2. Mobility:
 - a. Contractors and Subcontractors who are currently engaged in work on more than one project on the Campus and need mobility between project sites, or who need in-and-out privileges during the day from parking structures/lots, shall be required to make those arrangements at the time permits are obtained. A valid permit and contractor placard must be displayed. No mobility will be allowed in Dickson Court (Portola Plaza) or at meters, handicap stalls or stalls otherwise reserved, or in designated fire lanes. Violators will be cited.
 - b. Card keys will be issued ONLY to Contractors and Subcontractors who have two or more construction projects in process on the UCLA Campus.
- B. PARKING ARRANGEMENTS FOR THIS PROJECT: Contractor shall arrange and pay for all parking for itself, its subcontractors, and its employees.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 56 00
TEMPORARY BARRICADES & ENCLOSURES

1. GENERAL

1.1 TEMPORARY BARRICADES

- A. Provide temporary barricades as necessary. Maintain barricades in a clean and neat condition until no longer required and removal is approved or requested.
- B. When Work involves modification to an existing egress corridor, Contractor shall provide temporary barricades as necessary, constructed in a manner that maintains the fire resistive integrity of the affected corridor(s). Construction and placement of the barricades shall be approved by University's Representative.

1.2 REMOVAL AND RECONDITIONING

- A. Temporary facilities, barricades, utilities and other construction of temporary nature shall be removed from the Project site as soon as the progress of the work will permit in the opinion of University's Representative; and the portions of the Project site and building occupied by same shall be reconditioned and restored to original condition. For temporary utilities, refer to Section 01 51 00, TEMPORARY UTILITIES.
- B. Legally dispose of all debris resulting from removal and reconditioning operations.

1.3 BARRICADE FENCING

- A. Barricade chain link fencing shall be installed straight and plumb, using galvanized steel pipe and 9 gauge galvanized 2 inch diamond mesh wire fabric fastened to the posts and rails.
- B. Posts shall be 2.375 inch O.D.; securely set in the ground and spaced a maximum of 10'-0" O.C. and 8'-0" height with a continuous top pipe rail. Posts shall not be set in or on existing concrete paving or walls to remain, but shall be located in soil, planter or brick paved areas.
- C. Wire fabric shall be covered on the outside of the barricade with NJP Sports, Inc. Polypropylene Fabric #1231, Green, or equal, fastened securely to the barricade.
- D. Maintain fencing in a straight, clean and neat condition throughout construction as approved by University's Representative.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

1. GENERAL

1.1 TRANSPORTATION AND HANDLING

- A. Deliver manufactured products in their original unbroken containers or bundles, clearly labeled with manufacturer's name, brand, and grade seal or model number.
- B. Keep materials clean, dry, and undamaged. Handle materials and equipment in a manner to avoid damage to products and their finishes.
- C. Promptly remove damaged or defective products from the Project site and replace with no adjustment of Contract Sum.

1.2 STORAGE AND PROTECTION

- A. Store manufactured products in accordance with manufacturers' instructions and with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weathertight enclosures.
 - 2. Maintain temperature and humidity in accordance with manufacturers' recommendations (refer to Section 01 51 00, TEMPORARY UTILITIES).
- B. Exterior Storage:
 - 1. Store materials and equipment above ground on blocking or skids to prevent soiling, staining, and damage.
 - 2. Cover products which are subject to damage by the elements with impervious protective sheet coverings. Provide adequate ventilation to prevent condensation.
 - 3. Store sand, rock, or aggregate material in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage to allow adequate inspection.
- D. Periodically inspect stored products to assure that products are maintained under specified conditions and are free from damage and deterioration.
- E. Use of mechanical and electrical rooms for storage of materials or furniture is prohibited.
- F. Protection After Installation:
 - 1. Prevent damage to materials and equipment.
 - 2. Use whatever protective materials or methods are necessary to prevent damage to installed products from traffic, construction operations, and weather. Remove protection when no longer required.
 - 3. Maintain temperature and humidity conditions in interior spaces for the Work in accordance with manufacturers' instructions for the materials and equipment being protected.

1.3 UNDERWRITERS LABORATORIES, INC. (UL) LABEL

- A. Materials and equipment, for which UL standards have been established and their label service is available, shall bear the appropriate UL Label.

1.4 MANUFACTURERS' TRADE MARKS AND NAMES

- A. University's Representative 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 with no adjustment of Contract Sum.

1.5 NOT USED

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 71 33
PROTECTION OF ADJACENT CONSTRUCTION

1. GENERAL

1.1 SURROUNDING SITE CONDITION SURVEY

- A. Prior to commencing the Work, Contractor and University's Representative shall tour the Project site together to examine and record damage to existing adjacent buildings and improvements. 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 and improvements not noted in the original survey, but subsequently discovered, shall be reported to University's Representative.

1.2 PROTECTION OF EXISTING STRUCTURES AND UTILITIES (Refer also to General Conditions)

- A. The Drawings show, if applicable, existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, and other utilities which are known to University.
- B. Locate all known existing utility installations before proceeding with construction operations which may cause damage to such installations. The existing installations shall be kept in service where shown and damage shall be repaired with no adjustment of Contract Sum.
- C. If any other structures or utilities are encountered, request University's Representative to furnish direction on how to proceed with the Work.
- D. If any structure or utility is damaged, take immediate action to ensure the safety of persons and property.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 73 23
BRACING & ANCHORING

1. GENERAL

1.1 ANCHORS AND FASTENERS

- A. Anchors and fasteners may be utilized for this Project on a limited basis only. Submit manufacturer's literature and calculations for anchoring and fastening devices to University's Representative for approval prior to their use.
1. For concrete, use two-piece cinch anchors.
 2. The use of pneumatic-driven anchors or fasteners, and power-driven or powder-driven anchors or fasteners is prohibited.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 01 73 29
CUTTING & PATCHING

1. GENERAL

1.1 DESCRIPTION

A. Work Included

1. Patching and matching existing Work altered or disturbed to accommodate new construction.
2. Patching and matching existing Work damaged or defaced during new construction as required to restore to condition at time of award of Contract.
3. Matching of new Work in existing construction to adjacent existing Work unless otherwise noted.
4. Execute cutting, patching and matching in a manner to prevent damage to other Work and to provide proper surfaces for the installation of repairs, penetrations through surfaces, equipment or other items.

1.2 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Product Literature and Shop Drawings: Submit for review materials, methods, or systems different from existing Work to be matched.
- C. Samples as requested by University's Representative.

1.3 QUALITY ASSURANCE

A. Design Criteria

1. Patching shall achieve security and protection where exposed to weather, and shall preserve the continuity of existing fire ratings.
2. Cutting, patching and matching shall successfully duplicate the undisturbed adjacent finishes, colors, textures, and profiles. Where there is dispute over whether the duplication is successful or has been achieved to a reasonable degree, the judgment of University's Representative shall be final.
3. Contractor shall notify University's Representative in writing if non-complying existing construction or field conditions are encountered.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Refer to Section 01 60 00, PRODUCT REQUIREMENTS.

1.5 PROJECT CONDITIONS

- A. Environmental Requirements: Follow the manufacturer's recommendations.

2. PRODUCTS

2.1 MATERIALS

- A. Materials shall be as required to match the appearance, quality and performance of the existing finishes to be duplicated and materials to be replaced.
- B. Where the existing finish to be duplicated was achieved with materials now out of production or otherwise unavailable, obtain review and acceptance of substitutions by University's Representative.
- C. Provide primers, sealers, underlayments, backing, blocking, furring, suspension systems and related items required for any purpose in patching existing Work.
- D. Materials shall be subject to the review of and acceptance by University's Representative.

3. EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Perform Work in accordance with the manufacturer's recommendations, deviating only as approved by University's Representative to achieve a good match.
- B. For the following items, employ the installer or fabricator to perform any cutting, patching or matching of such items:
 1. Weather-exposed or moisture-resistance elements.
 2. Fireproofing.
 3. Finishes surfaces exposed to view.
- C. Adjust and fit products to provide a neat installation.
- D. Keep noise to a minimum. Inform University's Representative of locations where Work will be noisy, and obtain University's Representative's approval of the times during which such Work will be done.
- E. Finish or refinish surfaces as required to match adjacent finishes. Refinish to nearest intersection or refinish entire assembly.
- F. Patching of old ceramic tile surfaces:
 1. Match tile if practical.
 2. If matching tile is unavailable, provide stock tile of color acceptable to University's Representative. Install replacement tile in a uniform, rectilinear pattern that is symmetrical to the repair area (e.g., not a zigzag or checkerboard). Pattern shall be acceptable to University's Representative.
 3. Minor small screw holes may be filled with a rubberized grout of a color close to the tile color.

3.2 PAINTING

- A. Extent of Painting:
 - 1. Paint over the entire surface plane, unless otherwise noted.
 - 2. Over patched wall, soffit or ceiling surfaces, paint to the nearest cut off line for the entire surface, such as the intersection with the adjacent wall or ceiling, a beam, a pilaster, or to nearest opening frame where a total cut off does not occur within 10 feet of the patch, unless otherwise noted.
- B. Ensure painted surfaces do not present a spotty, touched-up appearance.
- C. Provide a smooth continuous surface in texture, coverage, and color.

3.3 PAVEMENT

- A. Asphaltic and Portland Cement concrete shall be patched to match adjacent surfaces and thickness, with similar material (e.g., exposed aggregate concrete, colored concrete, etc.).
- B. Remove and replace all damaged concrete and all concrete to be demolished to the nearest full depth joint. Surface scribed and partial depth sawn joints shall not be acceptable in lieu of full depth joints unless specifically approved by University's Representative.
- C. Restore pavement markings.
- D. Other paving materials and systems such as decomposed granite; stone pavers, etc. shall be replaced or restored in kind. Replace or restore an entire panel or area to present a uniform appearance to the satisfaction of University's Representative.
- E. All new surfaces shall be within 1/4 inch elevation of adjacent surfaces. All slopes to adjacent surfaces shall be less than 1 in 20, unless approved by University's Representative.

3.4 LANDSCAPING AND IRRIGATION

- A. Unless otherwise specified, restore to pre-existing condition, using similar materials.

3.5 MECHANICAL AND ELECTRICAL SYSTEMS

- A. Matching non-compliant materials currently in place will not be acceptable.
- B. Where equipment or devices have been removed, and where the active side of the pipe remains, cap or plug all abandoned piping using either threaded or soldered fittings. Do not rely on the existing valves for a positive shutoff.

END OF SECTION

SECTION 01 74 00
CLEANING & WASTE MANAGEMENT

1. GENERAL

1.1 DESCRIPTION

- A. Clean up and disposal.

2. PRODUCTS (Not Applicable)

3. EXECUTION

3.1 CONTINUOUS CLEAN UP

- A. Under no circumstances shall rubbish, debris, waste, dust, dirt, or surplus materials be allowed to accumulate in the building, or on the Project site, and all such shall be removed continually as the Work progresses and by the end of each day's Work.
1. Materials: In occupied building areas, only sufficient materials and flammable or toxic substances necessary for the Work being performed that day or shift shall be brought into the building and work areas. In no case shall flammable or toxic substances be stored in the building, and these substances shall be immediately removed from the building when not needed and not later than the end of the day's Work.
 2. Splatterings or spills of materials shall be promptly cleaned up at time of occurrence.
- B. Contractor shall provide street sweeping whenever silt from construction site is carried over to adjacent public thoroughfares.

3.2 FINAL CLEAN UP

- A. University's Representative's Inspection: Notify University's Representative at least 24 hours in advance of readiness for inspection. Any deficient cleaning operations, as determined by University's Representative, shall be immediately corrected as approved at Contractor's expense.
- B. Interior surfaces and areas where Work is performed shall be left in vacuum clean condition with all dust, dirt, stains, handmarks, paint spots, plaster droppings, and other blemishes and defects completely removed. To the extent of Contractor's operations, use or materials, the following requirements apply to all areas where Work is performed:
1. Walls: Bare and painted surfaces shall be cleaned and free of dust, lint, streaks, or stains.
 2. Hardware and metal surfaces shall be cleaned and polished using non-corrosive and non-abrasive materials.
 3. Glass: New glass and soiled existing glass shall be washed and polished both sides and left free of dirt and spots. Labels shall be removed.
 4. Ceilings shall be clean and free of stains, handmarks, and defacing.
 5. Fixtures and Equipment: New mechanical and electrical fixtures and like items shall be cleaned and polished. Lighting fixtures shall be free of dust, dirt, stains, or waste material. Equipment and machinery shall be cleaned, serviced, and ready for use. Existing items shall be cleaned as required including ventilating supply and return equipment in walls and ceilings.
 6. Surfaces not mentioned shall be cleaned according to the intent of this Section and as required for University's Representative's approval.

3.3 DISPOSAL

- A. Under no circumstances shall debris, rubbish, or waste material be disposed of on University's property by burying or otherwise, and all shall be removed from University's property to a legal disposal area. Contractor shall bear all dumping charges.
- B. Contractor is prohibited from cleaning out buckets, containers, and tools contaminated with paints, plaster, or any other materials in University storm drains.

3.4 CORRECTIVE WORK

- A. Where existing Work has been dirtied, stained, defaced, or otherwise made defective and cleaning operations are not satisfactory, as determined by University's Representative, Contractor shall remove the Defective Work and install new Work as requested and approved, at no extra cost to University.

3.5 CLEAN UP SPECIFIED IN OTHER SECTIONS

- A. Any clean up specified in other Sections of these Specifications shall be in addition to, and not in lieu of, these requirements.

END OF SECTION

SECTION 01 78 00
CLOSE-OUT SUBMITTALS

1. GENERAL

1.1 PROJECT RECORD DOCUMENTS / CONTRACTOR'S AS-BUILT DOCUMENTS

- A. Refer to Section 01 78 39, PROJECT RECORD DOCUMENTS.

1.2 SUBMITTAL

- A. Deliver closeout submittals and samples to University's Representative.
B. Include typed list identifying each item submitted as closeout document.

1.3 OPERATIONS AND MAINTENANCE MANUALS

- A. Prepare data in form of instructional manual.
1. Where written instructions are required, use personnel skilled in technical writing to extent necessary for communication of essential data.
2. Where drawings or diagrams are required, use personnel capable of preparing drawings clearly in understandable format.
B. Examine for completeness.
C. Submit to University's Representative digital copy (PDF or other standard file type approved by University's Representative) of completed volumes in draft form no later than 45 days prior to request for final acceptance of the Work. This digital copy will be returned with University's Representative's comments. Revise as necessary prior to final submittal of (1) final digital copy in same approved format.
D. Prepare and insert additional data in manuals when need for such data becomes apparent during instruction of University's personnel.
E. Identify each manual with title OPERATIONS AND MAINTENANCE MANUAL, title of project, and subject matter of binder when multiple binders are required.
F. Separate contents into sections logically organized with section title clearly identified.
G. Manuals shall contain:
1. Table of contents.
2. Directory listing names, addresses, and telephone numbers of Contractor and appropriate subcontractors.
3. List names, addresses and telephone numbers of subcontractors, suppliers, and service representatives, including local source of supplies and replacement parts.
4. General system or equipment description.
5. Copies of applicable shop drawings and product data.
6. Mark product data to clearly identify specific products and component parts.
7. Supplement product data with drawings necessary to illustrate relationship of component parts of equipment and systems, include control and flow diagrams.
8. Arranged by product, system, or process flow, and subdivided by Specification section. Identify following:
a. Significant design criteria.
b. List of equipment.
c. System or equipment identification, including:
1) Name of manufacturer.
2) Model number.
3) Serial number of each component.
d. Parts list for each component.
e. Operating instructions.
f. Maintenance instructions and schedules for equipment and systems.
g. Emergency instructions.
h. Wiring and piping diagrams.
i. Inspection and test procedures.
j. Precautions against improper use and maintenance.
9. Copies of warranties (see Paragraph 1.6 below).
10. Text material:
a. Furnish manufacturer's standard printed material or typewritten specially prepared data.
b. Furnish text in 8-1/2 inches by 11 inches format.
11. Drawings and diagrams.
H. Environmental Requirements:
1. Identify environmentally preferable materials and systems incorporated into the Project. Include: product model; manufacture's name, address, phone, and website; and local technical representative, if any.
a. Verify that plastic products incorporated into the Project are labeled in accordance with ASTM D1972. Where products are not labeled, furnish product data indicating polymeric information in Operation and Maintenance Manual.
1) Type 1: Polyethylene Terephthalate (PET, PETE).
2) Type 2: High Density Polyethylene (HDPE).
3) Type 3: Vinyl (Polyvinyl Chloride or PVC).

- 4) Type 4: Low Density Polyethylene (LDPE).
 - 5) Type 5: Polypropylene (PP).
 - 6) Type 6: Polystyrene (PS).
 - 7) Type 7: Other. Use of this code indicates that the package in question is made of resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.
- b. Describe maintenance procedures associated with environmentally preferable materials and systems. Include cleaning recommended in accordance with ASTM E1971.
- 1) Include potential environmental impacts of recommended maintenance procedures and materials.
 - 2) Include potential indoor air quality impacts of the recommended maintenance procedures and materials.
 - 3) Where the proposed maintenance procedures incorporate composting of plastics, assess and the potential effect of each type of plastic to be included on the composting process in accordance with ASTM D5509 or ASTM D5512.
- c. Identify maintenance agreements, take-back programs, green leases, and appropriate contact information for the following:
- 1) Carpet.
 - 2) Ceiling Tile.
 - 3) Office Equipment.
- d. Material Safety Data Sheet: Include MSDS in product specifications.

1.4 MATERIAL AND FINISHES MAINTENANCE MANUAL

- A. Manual:
1. Submit to University's Representative digital copy (PDF or other standard file type approved by University's Representative) of each materials and finishes manual in final form.
 2. Furnish (1) section for interior products, including applied materials and finishes, and (1) section for exterior products.
- B. Interior Products:
1. Furnish manufacturer's data and instructions on care and maintenance of architectural products, including applied materials and finishes.
 2. Product Data: Furnish complete information on architectural products, including following, as applicable:
 - a. Manufacturer's catalog number.
 - b. Size.
 - c. Material composition.
 - d. Color.
 - e. Texture.
 - f. Reordering information for specially manufactured products.
 3. Care and Maintenance Instructions: Furnish information on care and maintenance including manufacturers' recommendations for types of cleaning agents to be used and methods of cleaning. Furnish information regarding cleaning agents and methods that could prove detrimental to product. Include manufacturers' recommended schedule for cleaning and maintenance.
- C. Exterior Products:
1. Furnish complete manufacturer's data with instructions on inspection, maintenance, and repair of products exposed to weather or designed for moisture-protection purposes.
 2. Manufacturer's Data: Furnish manufacturers' data giving detailed information, including following, as applicable.
 - a. Applicable standards.
 - b. Chemical composition.
 - c. Installation details.
 - d. Inspection procedures.
 - e. Maintenance information.
 - f. Repair procedures.

1.5 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Furnish tools, spare parts, and maintenance and extra stock materials in quantities specified in individual Specification sections.
- B. Deliver to Project site and place in locations as approved; obtain receipt from subcontractors and suppliers.
- C. No later than at time of inspection for final acceptance, submit a letter identifying by item and quantity, all spare parts and maintenance materials submitted.

1.6 GUARANTEES, WARRANTIES, BONDS, SERVICE & MAINTENANCE CONTRACTS

- A. General: Guarantees from Subcontractors shall not limit Contractor's warranties and guarantees to University. Whenever possible, Contractor shall cause warranties of Subcontractors to be made

directly to University. If such warranties are made to Contractor, Contractor shall assign such warranties to University prior to final payment.

B. Form of Guarantee: Submit written guarantees in the form contained at the end of this Section.

C. Submittal Requirements:

1. Assemble required guarantees, bonds, and service and maintenance contracts.
2. Number of original signed copies required: (2) each. Also submit (1) digital copy (PDF or other standard file type approved by University's Representative).
3. Table of Contents: Neatly typed and in orderly sequence. Furnish complete information for each item as follows:
 - a. Product or Work item.
 - b. Firm name, address, and telephone number; and name of principal.
 - c. Scope.
 - d. Date of beginning of guarantee, bond, or service and maintenance contract.
 - e. Duration of guarantee, bond, or service and maintenance contract.
 - f. Contractor's name, address, and telephone number; and name of responsible principal.
 - g. Furnish information for University's personnel:
 - 1) Correct procedure in case of failure.
 - 2) Circumstances which might affect the validity of guarantee or bond.

D. Form of Submittals:

1. Prepare in duplicate packets.
2. Format:
 - a. Size 8½-inch x 11-inch sheets punched for 3-ring binder. Fold larger sheets to fit into binders.
 - b. Identify each packet on the cover with typed or printed title "GUARANTEES AND BONDS," and the following:
 - 1) Title of Project.
 - 2) Name of Contractor.
3. Binders: Commercial quality, 3-ring, with durable and cleanable plastic covers.

E. Time of Submittals:

1. Within 10 days after the date of Substantial Completion, and prior to request for final payment.
2. For Work activities, where Final Completion is delayed materially beyond the date of Substantial Completion, furnish updated submittal within 10 days after Final Completion, listing the date of Final Completion as the start of the Guarantee to Repair Period.

F. Submittals Required: Submit guarantees, bonds, and service and maintenance contracts specified in the individual Sections.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

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GUARANTEE

Date: _____

Project Name: _____

Project Number

Order Number

Project Location: _____

GUARANTEE FOR _____ (the "Contract"), between The Regents of the
(Specification Section); Contract No.

University of California ("University") and _____ ("Contractor").

(Name of 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 Number: _____

Address: _____

Phone Number: _____

CONTRACTOR

Signed: _____ Title: _____

Typed Name: _____

Name of Firm: _____

END OF SECTION

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

1. GENERAL

1.1 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store Contractor's as-built documents and Samples in Contractor's field office separate from documents used for construction.
- B. Maintain as-built documents in order and in a clean, dry, legible condition.
- C. Do not use as-built documents for construction.

1.2 AS-BUILT DOCUMENTS

- A. University's Representative will, at no cost, furnish Contractor a digital set of Drawings of the original Contract Documents, which shall be used for recording the "as-built" condition of the Work.
- B. As-Built Drawings: Record the following kinds of information on the As-Built Drawings:
 - 1. Locations of Work buried under or outside the building, such as plumbing and electrical lines and conduits. Furnish horizontal and vertical dimensions from fixed points.
 - 2. Actual numbering of each electrical circuit.
 - 3. Locations of all HVAC, plumbing and electrical Work concealed inside the building; and other work that is changed by Contractor from that shown on the Drawings.
 - 4. Locations of all items, not necessarily concealed, which vary from the locations shown on the Drawings.
- C. The following requirements for As-Built Drawings are in addition to those specified elsewhere:
 - 1. As-built conditions shall be carefully and neatly recorded using methods acceptable to University's Representative. Final Drawings shall be submitted in PDF format, shall match size of original Contract Drawings and comply with the following:
 - a. The Design Professional's seal on the drawings shall be crossed out.
 - b. Add Contractor's name and contact information on each drawing.
 - c. Add "AS-BUILT" to the lower right area of each drawing.
 - 2. They shall be kept up to date during the entire progress of the Work and made available to University's Representative at any time.
 - 3. Additional drawings shall be furnished as required to accurately describe changes.
 - 4. Record all changes in size, location, and other features of installation shown on the Drawings.
 - 5. Record all locations of underground Work, points of connection, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
 - 6. Record sufficient information such that Work concealed in, under or outside the building may be located with ease and accuracy. This may be accomplished by dimensioning or by stating the relationship to the spaces in the building near which the Work was installed. University's Representative's decision on what constitutes sufficient information shall be final.
- D. Shop Drawings: Furnish final Shop Drawings which have been updated to show actual conditions, for Work specified in the individual Sections.
- E. Specifications and Addenda:
 - 1. Record the following:
 - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - b. Changes made by Addenda, Change Order, or Field Order, and clarifications and interpretations made by Letter of Instruction. All changes made shall be shown on the as-builts.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

SECTION 02 8100 – TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS

GENERAL

1.1 DESCRIPTION

- A. Remove, segregate, characterize and properly dispose of hazardous materials/hazardous waste from Project site as herein specified. Contractor is responsible for verifying actual quantities. Contractor shall provide all labor, materials, services, insurance (specifically covering the handling and transportation of hazardous materials/hazardous waste), and equipment which is specified, shown or reasonably implied for the following asbestos hazardous materials abatement activities:
 - 1. Removal of Asbestos Containing Black Mastic from three booths within the Medical Plaza parking structure.
- B. Removal of Hazardous asbestos waste produced by project.
- C. The work specified herein covers the transportation and disposal of hazardous materials from the site project. Preparation and removal of waste from the abatement areas are specified in the asbestos hazardous materials abatement specifications (028213, 028319.13, 028700).

Refer to Information Available to Bidders for hazardous materials survey report, if any.

1.2 DEFINITIONS

- A. The following definitions and acronyms are used throughout the specifications and drawings in reference to Asbestos Abatement:
 - 1. Abatement: Procedures to control fiber release from Asbestos Containing Materials. Includes Demolition, Encapsulation and Removal.
 - 2. Accumulation Area: Means any on-site location where hazardous waste is generated and stored before being transported off-site.
 - 3. AHERA: Asbestos Hazard Emergency Response Act, 40 CFR, Part 763, Subpart E, and subsequent amendments.
 - 4. Amended Water: Water to which a surfactant (wetting agent) has been added.
 - 5. Asbestos Containing Material (ACM): Means any material containing more than one percent (1%) Asbestos.
 - 6. AAS: Atomic Absorption Spectrophotometry used for lead paint chip and dust wipe sample analysis.
 - 7. CAR: Certified Appliance Recycler (CAR) or a scrap facility that is CAR.
 - 8. CDPH: California Department of Public Health.
 - 9. Clean Room: An uncontaminated area or room, which is a part of the worker Decontamination Enclosure System with provisions for storage of worker's street clothes and clean protective equipment.
 - 10. Curtained Doorway: A device to allow ingress and egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway,

securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Other effective designs may be submitted for review.

11. Decontamination: The process of eliminating contamination on the exterior surfaces of all types of containers prior to segregation outside the abatement work areas/regulated abatement work areas.
12. Decontamination Enclosure System: Means an enclosed area, which is adjacent and connected to the Regulated Area, consisting of an Equipment Room, Shower Room, and Clean Room for the Decontamination of workers, materials, and equipment.
13. Demolition: The wrecking or taking out of any load supporting structural member of a facility together with any related handling operations.
14. DOSH: Division of Occupational Safety & Health or Cal/OSHA.
15. DOT: Department of Transportation.
16. DTSC: Department of Toxic Substances Control.
17. EA: Exposure Assessment.
18. EPA: United States Environmental Protection Agency.
19. HDPE: High Density Polyethylene.
20. HEPA Filter: Means a filtering system capable of trapping and retaining at least 99.97% of all mono-dispersed particles 0.3 microns in diameter or larger. For respirators this shall include NIOSH rated P-100 cartridges only.
21. HEPA Vacuum: A vacuum system furnished with HEPA filtration.
22. ICP-AES: Means Inductively Coupled Plasma-Atomic Emissions Spectroscopy used for heavy metal analysis.
23. Lead Based Paint (LBP): Not for determining disposal requirements, means paint or other surface coatings that contain an amount of lead equal to or greater than 0.7 milligrams per square centimeter (0.7 mg/cm²) or equal to or greater than 0.5% by weight or equal to or greater than 5,000 parts per million (ppm).
24. Lead Containing Paint (LCP): Not for determining disposal requirements, means paint or other surface coatings that contain lead in an amount less than 0.7 milligrams per square centimeter (0.7 mg/cm²) or less than 0.5% by weight or less than 5,000 parts per million (ppm).
25. Lead Contaminated Dust: Not for determining disposal requirements, means dust that contains an amount of lead equal to or greater than 40 micrograms per square foot (40 ug/ft²) for interior floor surfaces; 250 micrograms per square foot (250 ug/ft²) for interior horizontal window surfaces; and 400 micrograms per square foot (400 ug/ft²) for exterior floor and exterior horizontal window surfaces.
26. Lead Contaminated Soil: Not for determining disposal requirements, means bare soil that contains an amount of lead equal to or greater than 400 parts per million (400 ppm) in children's play area and 1000 parts per million (1000 ppm) in all other areas.
27. MRSH: Materials that Require Special Handling.
28. NESHAP: National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
29. NIOSH: National Institute for Occupational Safety and Health.

30. PAH: Polycyclic Aromatic Hydrocarbon.
31. PCB: Polychlorinated Biphenyl
32. RCRA: US EPA's Resource Conservation and Recovery Act.
33. SCAQMD: South Coast Air Quality Management District.
34. Shower Room: A room between the Clean Room and the Equipment Room in the worker Decontamination Enclosure System furnished with hot and cold running water controllable at the tap, and suitably arranged for complete showering during Decontamination.
35. STLC: Means Soluble Threshold Limit Concentration used in the State of California in conjunction with TTLC to determine non-hazardous waste.
36. Staging Area: Areas near the Waste Transfer Airlock where containerized waste is temporarily placed prior to permanent removal from the Work area.
37. Surfactant: A chemical wetting agent added to water.
38. TTLC: Means Total Threshold Limit Concentration test used in the State of California in to determine if debris may be considered non-hazardous waste.
39. TCLP: Means Toxicity Characteristic Leaching Procedure used to determine the level of hazardous waste for treatment purposes.
40. TPH: Total Petroleum Hydrocarbon
41. TSCA: Toxic Substances Control Act.
42. TSDF: Treatment Storage Disposal Facility.

1.3 PROCEDURES

- A. Contractor shall perform all packaging, labeling, handling, shipping papers, transportation, security; and disposal of hazardous, non-hazardous and universal waste and recycle waste Work and any other Work done in conjunction with this Work, as specified herein and in compliance with all Applicable Code Requirements. See paragraph 1.3.C below.
- B. The most recent edition of any relevant regulation, standard, document or code shall be in effect.
- C. Contractor shall comply, without limitation, with the following:
 1. Code of Federal Regulations (CFR).
 - a. 29 CFR §1910.134 Respiratory Protection
 - b. 29 CFR §1910.145 Specifications for Accident Prevention Signs and Tags
 - c. 29 CFR §1926.1101 Construction Standard for Asbestos, Tremolite, Anthophyllite and Actinolite
 - d. 29 CFR §1926.050 Stairways and Ladders
 - e. 29 CFR §1926.59 Hazard Communication – Construction
 - f. 29 CFR §1926.450-454 Scaffolds and Training
 - g. 40 CFR 61 Subpart A General Provisions

- h. 40 CFR 61 Subpart M National Emissions Standard for Hazardous Air Pollutants (NESHAP)
 - i. 40 CFR Part 763 Subpart E, EPA AHERA Regulations
 - j. 40 CFR Part 751 Subpart B, Methylene Chloride (dichloromethane)
 - k. 49 CFR 171 through 180 U.S. Department of Transportation
 - 2. California Code of Regulations (CCR).
 - a. Title 8 §341.6 Registration, Asbestos Related Work
 - b. Title 8 §1529 Construction Industry Safety Orders
 - c. Title 8 §3203 Injury and Illness Prevention Program
 - d. Title 8 §5144 Respiratory Protective Equipment
 - e. Title 8 §5194 Hazard Communication
 - f. Title 8 §5208 General Industry Safety Orders (GISO), asbestos
 - g. Title 22 Hazardous Waste Handling
 - h. Title 22 Section 66261.101
 - i. Title 22 Section 66261.24(a)(6) – Characteristic of Toxicity
 - j. Title 24, Part 9, Chapter 26, California Fire Code 2022
 - k. Title 24, Part 3, California Electrical Code 2022
 - l. Assembly Bill 332 – Alternate Management Standard (AMS) for treated wood waste
 - 3. American National Standards Institute (ANSI) Publications.
 - a. Z9.2-79 Fundamentals Governing the Design and Operation of Local Exhaust Systems
 - b. Z88.2-80 Practice for Respiratory Protection
 - 4. American Society for Testing and Material (ASTM) Publication.
 - a. E 1368-11 Standard Practice for Visual Inspection of Asbestos Abatement Projects
 - 5. Underwriters' Laboratories, Inc. (UL) Publication.
 - a. 586-85 High Efficiency, Particulate, Air (HEPA) Filter Units
 - b. Cal. Lab, Code Sections 6501.5, 6501.8, and 6503.5.
 - 6. South Coast Air Quality Management District (SCAQMD).
 - a. Rule 1403 Asbestos Emissions from Demolition/Renovation Activities.
 - b.
- D. Transportation:
 - 1. Regulations pertaining to the transport and disposal of hazardous substances/materials include, but are not limited to, the following:
 - a. Department of Transportation 49 CFR 171 through 180.
 - b. Department of Transportation 49 CFR 387 (46 FR 30974, 47073).
 - c. Department of Transportation DOT-E 8876.

- d. Environmental Protection Agency 40 CFR 136 (41 FR 52779).
 - e. Environmental Protection Agency 40 CFR 261, 262 and 761.
 - f. Resource Conservation and Recovery Act (RCRA).
 - g. California Vehicle Code, CHP Regulations (Cal.Code Regs., tit. 13).
 - h. California State Fire Marshal Regulations (Cal. Code Regs., tit. 19).
2. Any transporter of hazardous substances shall be licensed in the state in which handling and transportation will take place in accordance with all applicable regulations.
 3. Comply with OSHA (Occupational Safety and Health Administration) Standards and Regulations contained in Title 29 Code of Federal Regulations, Part 1910.120 "Hazardous Waste Operations and Emergency Response."
 4. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.4 SUBMITTALS

- A. Refer to Section 01 3323, SHOP DRAWINGS, PRODUCT DATA & SAMPLES, for procedures.
- B. Contractor shall submit the following information to University's Representative one (1) copy in a pdf, OCR (Optical Character Recognition) format on a daily basis or whenever requested during progression of the work:
 1. Safety Data Sheets (SDS) for solvents, caustic stripping agents, paints, encapsulants, adhesives, detergents, and replacement materials, as necessary.
 2. When rental equipment is to be used for the transport and disposal of hazardous waste, a written notification concerning the intended use of the rental equipment shall be provided to the rental agency with a copy submitted to the University.
 3. Copies of all transport manifests, trip tickets and disposal receipts for all hazardous materials removed from the work area within 24 hours of the transport. Send to:

Environment, Health & Safety
University of California, Los Angeles
501 Westwood Plaza, 4th Floor
Box 951605
Los Angeles, CA 90095-1605
hazardousmaterials@ehs.ucla.edu
- C. Emergency planning and procedures are specified in paragraph 1.6.
- D. Analytical Results. See paragraph 3.1.A.
- E. Approved Letters from landfill Operators, as applicable. See paragraphs 3.3.F.3, 3.3.H, 3.3.I, 3.4.G.3, 3.4.I, and 3.6.J.3.
- F. Waste Certification Forms. See paragraphs 3.3.G, 3.4.H, 3.6.J.3, 3.6.J.5.
- G. Waste Manifests and Certification forms. See paragraph 3.3.G, 3.3.H, 3.3.I, 3.4.D, 3.4.I., 3.4.J, 3.6.L.
 1. These documents shall also be sent to:

UCLA Office of Environment, Health & Safety, 501 Westwood Plaza, 4th floor, Box 951605
Los Angeles, CA 90095-1605 hazardousmaterials@ehs.ucla.edu

1.5 SITE SECURITY

- A. The waste accumulation area outside the abatement work area/regulated abatement area shall be restricted only to authorized, trained and protected personnel, including Contractor, Contractor's employees, University employees and representatives, State and Local inspectors.
- B. Contractor shall be responsible for Project site security during abatement operations in order to protect work efforts, equipment, and waste accumulation area(s).

1.6 EMERGENCY PLANNING

- A. Emergency planning and procedures shall be developed by Contractor prior to abatement initiation.
- B. Emergency procedures shall be in written form and prominently posted. Contractor shall ensure that all persons entering the waste accumulation area read these procedures and understand the Project site layout, location of emergency exits and emergency procedures.
- C. Emergency planning shall include considerations of hazardous waste, fire, explosion, electrical hazards, slips, trips and falls, confined spaces, and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided by Contractor.

1.7 FIRE PROTECTION

- A. A minimum of one (1) 4A/60BC dry-chemical extinguisher shall be maintained at each of the following locations:
 - 1. At each waste accumulation area.
 - a. All extinguishers shall be clearly identified with red tape.
 - 2. Contractor shall ensure that on site personnel are aware of the location and proper use of all extinguishers and other fire/life safety equipment.

PART 2 – PRODUCTS

2.1 PROHIBITED USE

- A. Products containing Methylene Chloride (aka dichloromethane or DCM) 2024 EPA Final Rule under the Toxic Substances Control Act.

PART 3 - EXECUTION

3.1 TESTING AND TRANSPORT

- A. Hazardous Waste Characterization Extraction Tests (TTLC – Total Threshold Limit Concentration, STLC – Soluble Threshold Limit Concentration, TCLP – Toxicity Characteristic

Leeching Procedure, for all California and Federal regulated metals. Each waste stream to be segregated and tested until results can determine which disposal methods can legally be used.

- B. Collect one composite sample from each media type (solid, liquid, or sludge) of potentially hazardous substance stored in drums, stockpiled, or otherwise identified at the Project site for the purposes of obtaining approvals for proper transport and disposal of the suspect materials. Submit all analytical results to University's Representative.
- C. If required, over-pack any leaking or deteriorated drums to prevent leaks or spills, and pack small 5-gallon containers into larger new 55-gallon drums. Cover all solid waste materials and stockpiled soils with an HDPE liner to prevent storm water runoff from contaminating surrounding areas.
- D. Prepare manifests, material profiles, and submit lab analysis for all drums/containers and any other documentation required by the receiving facility for signature by University's Representative.
- E. Coordinate waste sampling and analysis requirements with the disposal facility and properly complete all profiling and transport documents prior to loading and transport.
- F. A State registered "Hazardous Waste Hauler" shall transport the waste to a lawfully permitted and University approved facility.
- G. Prior to transport, a copy of the hazardous waste manifest and waste/material profile form(s) shall be delivered or emailed to the address listed below for review. The manifests shall list the generator's name and address, site address, Generator's EPA ID number, to include the waste profile number. Attach the land disposal restriction (LDR) form to the manifest prior to submission to EH&S. All other copies of the manifest and LDR shall be submitted to the waste transporter. Generator address for all waste manifests:

Environment, Health & Safety
University of California, Los Angeles
501 Westwood Plaza, 4th Floor
Box 951605
Los Angeles, CA 90095-1605
hazardousmaterials@ehs.ucla.edu
- H. Load, handle, and transport all 55-gallon drums and other waste containers to the appropriate disposal facility in accordance with all Applicable Code Requirements.
- I. All transport documentation from the receiving facility verifying acceptance and receipt of drums/containers at the facility and all sampling and associated test results shall be submitted to University's Representative, within fifteen (15) days following receipt of all hazardous substances to the disposal facility.
- J. All materials identified as hazardous waste under the EPA's Resource Conservation and Recovery Act (RCRA) are not permitted to remain at the Project site more than 30 days after being deemed to be a hazardous waste. During this period of Project site storage, provide all precautions to contain and prevent the release of hazardous or potentially hazardous materials to the environment.

3.2 DISPOSAL PROCEDURES

- A. Asbestos-containing Mastic waste.
- B. Sealed and label containers of hazardous waste shall be removed from project site and transported to an approved disposal location as required to not exceed Accumulation Area storage capacity.
- C. All hazardous waste must be transported by a California licensed and insured company in accordance with regulatory requirements of the Department of Transportation.
- D. Disposal shall occur at an approved facility in accordance with regulatory requirements of EPA and all Applicable Code Requirements, including the California State Department of Health Services, NESHAP, and Toxic Substances Control Division.

3.3 Asbestos Disposal Facilities:

- A. All asbestos waste shall be disposed of at one of the following approved facilities:

US Ecology, Inc.
P.O. Box 578
Beatty, NV 89003
Highway 95 – 12 Miles South of Beatty, Nevada
(800) 239-3943

Azusa Land Reclamation Co.
1201 West Gladstone St.
Azusa, CA 91702
(626) 334-0719

La Paz County Landfill
26999 Hwy 95 Mile Post 128
Parker, AZ 85344
(928) 505-7414

Clean Harbors
2500 West Lokern Road
Buttonwillow, CA 93206
(661) 762-6200

Simi Valley Landfill and Recycling Center-SVLR
(Only Non-friable & Non-Hazardous)
2801 Madera Road, Simi Valley, CA 93065
(805) 522-7023

- B. Other facilities may be used only if prior written approval is obtained from University's Office of Environment, Health & Safety.
- C. All non-hazardous asbestos-containing waste shall be adequately wet prior to being double bagged in clear 6-mil polyethylene disposal bags and sealed with duct tape. Non-hazardous waste shall be disposed of as non-hazardous waste and transported on a non-hazardous waste manifest. The outer bags or containers shall be labeled with the following description:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

- E. All friable and hazardous asbestos-containing waste shall be adequately wet prior to being double bagged in clear 6-mil flame-resistant polyethylene disposal bags. Both the inner and outer bag shall have the air removed with a HEPA vacuum prior to sealing with duct tape using the gooseneck technique. All bags shall be printed with appropriate DOT labeling and have generator identification labels. All hazardous waste shall be shipped using the following information of shipping papers and manifests:

NA 2212, Asbestos, 9, PGIII, RQ, NAERG 171

- F. All Waste Certification Forms attesting to the content of the generated waste shall be signed and completed by Contractor.
- G. All dump receipts, trip tickets, transportation manifests or other documentation of disposal shall be delivered to University's Office of Environment, Health & Safety. Record keeping format shall utilize a chain of custody form which includes the names and addresses of the Generator (University), Contractor, pick-up site, disposal site, estimated quantity of asbestos waste disposed and the type of container utilized. This form shall be signed by the Generator's Representative, Transporter and the Disposal Site Operator as the responsibility of the material changes hands. Secondary Transporters are not allowed unless approved in writing by University's Office of Environment, Health & Safety.
- H. All hazardous and non-hazardous asbestos waste manifests shall require minimum 72-hours advance notice as a request prior to waste removal from University to the following office:

UCLA Office of Environment, Health & Safety
501 Westwood Plaza, 4th Floor
Box 951605
Los Angeles, CA 90095-1605
hazardousmaterials@ehs.ucla.edu

- I. All waste transportation vehicles or containers shall be prepared as follows:
1. Following removal from the project site, all asbestos waste shall be immediately loaded into an enclosed truck, bin or dumpster for transportation.
 2. Any debris or residue observed on waste containers or surfaces outside the work area resulting from clean-up or waste disposal activities shall be immediately cleaned up using HEPA vacuums and/or wet methods as appropriate.
 3. The enclosed cargo area of the truck, bin or dumpster shall be free of debris and lined with at least one (1) layer of 6-mil. flame-resistant polyethylene sheeting to prevent contamination from leaking containers.
 4. The enclosed cargo area of the truck, bin or dumpster shall have doors or tops that can be closed and locked to prevent vandalism or other disturbance of the packaged asbestos waste and wind dispersion of asbestos fibers. The door or top shall be secured and locked at all times with the exception of loading and unloading of asbestos waste.
 5. Asbestos waste shall be transported from the Project site to the truck, bin or dumpster using appropriate drum dollies or covered debris carts.

6. Asbestos waste containers shall not contain loose, un-bagged material nor shall they contain non-asbestos waste.
 7. Bags shall be placed, not thrown into the waste containers to prevent splitting and the release of asbestos fibers.
 8. Drums or large structural components shall be placed on level surfaces in the cargo area and packed together to prevent shifting or tipping.
- J. All dump receipts, trip tickets, transportation manifests or other documentation of disposal shall be delivered to University's Office of Environment, Health & Safety. Record keeping format shall utilize a chain of custody form which includes the names and addresses of the Generator (University), Contractor, pick-up site, disposal site, estimated quantity of hazardous materials waste disposed and the type of container utilized. This form shall be signed by the Generator (University), Transporter and the Disposal Site Operator as the responsibility of the material changes hands. Secondary Transporters are not allowed unless approved in writing by University's Office of Environment, Health & Safety.
- K. All waste manifests or other documentation of disposal shall require a minimum of 72-hours advance notice as a request prior to waste removal from the University to the following office:

UCLA Office of Environment, Health & Safety
501 Westwood Plaza, 4th Floor
Box 951605
Los Angeles, CA 90095-1605
hazardousmaterials@ehs.ucla.edu

- L. All waste transportation vehicles or containers shall be prepared as follows:
1. Following removal from the project site, all hazardous materials waste shall be immediately loaded into an enclosed truck, bin or dumpster for transportation.
 2. Any debris or residue observed on waste containers or surfaces outside the work area resulting from clean-up or waste disposal activities shall be immediately cleaned up using HEPA vacuums and/or wet methods as appropriate.
 3. The enclosed cargo area of the truck, bin or dumpster shall be free of debris and lined with at least one (1) layer of 6 mil. flame-resistant polyethylene sheeting to prevent contamination from leaking containers.
 4. The enclosed cargo area of the truck, bin or dumpster shall have doors or tops that can be closed and locked to prevent vandalism or other disturbance of the packaged hazardous materials waste and wind dispersion of hazardous materials fibers. The door or top shall be secured and locked at all times with the exception of loading and unloading of hazardous materials waste.
 5. Hazardous materials waste shall be transported from the Project site to the truck, bin or dumpster using appropriate drum dollies or covered debris carts.
 6. Hazardous materials waste containers shall not contain loose, un-bagged material nor shall they contain non-hazardous materials waste.
 7. Bags shall be placed, not thrown into the waste containers to prevent splitting and the release of hazardous materials fibers.
 8. Drums or large structural components shall be placed on level surfaces in the cargo area and packed together to prevent shifting or tipping

END OF SECTION

SECTION 02 8213 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

Remove and properly dispose of asbestos-containing materials from Project site as herein specified. **Contractor is responsible for verifying actual quantities.** Contractor shall provide all labor, materials, services, insurance (specifically covering the handling and transportation of asbestos material), and equipment which is specified, shown or reasonably implied for the following asbestos abatement activities.

- A. All hazardous waste (Asbestos Containing Material) including but not limited to:
 - 1. The removal and disposal of Asbestos Containing Black Mastic (under rubber flooring) from three (3) parking booths at K9 MP – level 1, one (1) parking booth at K9 MP – level 2 and two (2) parking booths at K8 STR1 – level 1. Approximately Sixty (60) square feet for each booth.
- B. General:
 - 1. The work specified herein covers the preparation of the Project site, removal and encapsulation of building structures and components and the removal of materials that have been determined to contain, or to be contaminated by asbestos.
 - 2. Asbestos waste must be secured, marked, or labelled, for container(s) holding accumulation of asbestos waste with the date when the hazardous waste began accumulation.
 - 3. The work shall be supervised by experienced persons trained, knowledgeable and qualified in the techniques of asbestos abatement, handling and disposal of asbestos-containing, and asbestos contaminated, materials and the subsequent cleaning of contaminated areas.
 - 4. Damages caused during the performance of abatement activities shall be repaired by Contractor (e.g. paint peeled off by barrier tape, nail holes, water damage, broken glass) at no additional expense to University. Contractor is responsible for restoring the work area and auxiliary areas, used in the abatement work, to conditions equal or better than original.
 - 5. Refer to Specification Section 02 8100 for Transportation and Disposal of Hazardous Materials.
 - 6. Refer to Information Available to Bidders for hazardous materials survey report, if any.

1.2 DEFINITIONS

- A. The following definitions and acronyms are used throughout the specifications and drawings in reference to Asbestos Abatement:
 - 1. Abatement: Procedures to control fiber release from Asbestos Containing Materials. Includes Demolition, Encapsulation and Removal.
 - 2. Accumulation Area: Means any on-site location where hazardous waste is generated and stored before being transported off-site.
 - 3. AHERA: Asbestos Hazard Emergency Response Act, 40 CFR, Part 763, Subpart E, and subsequent amendments.

4. Amended Water: Water to which a surfactant (wetting agent) has been added.
5. Asbestos Containing Material (ACM): Means any material containing more than one-percent (1%) Asbestos.
6. Asbestos Containing Construction Material (ACCM): Means any material that contains greater than one-tenth of one percent ($>0.1\%$) asbestos.
7. Presumed Asbestos Containing Material (PACM): Means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later than 1980 that are assumed to contain greater than one percent ($>1\%$) but have not been sampled or analyzed to verify or negate the presence of asbestos.
8. Class I, II, III, and IV asbestos work has the meaning as defined in California Code of Regulations Title 8, Section 1529.
9. Clean Room: An uncontaminated area or room, which is a part of the worker Decontamination Enclosure System with provisions for storage of worker's street clothes and clean protective equipment.
10. Controlled Disturbance: An activity by which a contractor disturbs an asbestos containing material or an asbestos containing construction material using the work practices allowed for in this specification and in compliance with regulatory limitations.
11. Curtained Doorway: A device to allow ingress and egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Other effective designs may be submitted for review.
12. Decontamination: The process of eliminating Asbestos contamination from building surfaces, objects, and property, by cloths, mops, or other utensils dampened with water and disposed of afterwards as Asbestos contaminated waste.
13. Decontamination Enclosure System: Means an enclosed area, which is adjacent and connected to the Regulated Area, consisting of an Equipment Room, Shower Room, and Clean Room for the Decontamination of workers, materials, and equipment contaminated with Asbestos.
14. Demolition: The wrecking or taking out of any load supporting structural member of a facility together with any related handling operations.
15. DOSH: Division of Occupational Safety & Health or Cal/OSHA
16. DOT: Department of Transportation
17. DTSC: Department of Toxic Substances Control
18. Encapsulating Material: A liquid material applied to Asbestos Containing Materials which controls the possible release of Asbestos fibers from the material either by creating a membrane over the surface (bridging agent) or by penetrating into the material and binding its components together (penetrating Encapsulating Material).
19. Encapsulation: The application of an Encapsulating Material to Asbestos Containing Materials to prevent the release of Asbestos fibers into the air.
20. Enclosure: The construction or application of an airtight, impermeable, permanent barrier around Asbestos Containing Material to control the release of Asbestos fibers into the air.
21. Friable Asbestos: Asbestos Containing Material which, when dry, can be crumbled, pulverized or reduced to a powder by hand pressure or as defined by current regulations.

22. Glove Bag Technique: A method with limited applications for removing small amounts of Asbestos Containing Material from short piping runs, valves, joints, elbows, and other non-planar surfaces in a Work area. The glove bag assembly is a manufactured or fabricated device consisting of a glove bag (typically constructed of 6 mil transparent polyethylene or polyvinyl chloride plastic), two inward projecting long sleeves gloves, an internal tool pouch, and labeled for Asbestos waste. The glove bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all Asbestos fibers released during the process. All workers who are permitted to perform the Glove Bag Technique shall be thoroughly trained, experienced, and skilled in this method.
23. HDPE: High Density Polyethylene
24. HEPA Filter: Means a filtering system capable of trapping and retaining at least 99.97% of all mono-dispersed particles 0.3 microns in diameter or larger. For respirators this shall include NIOSH rated P-100 cartridges only.
25. HEPA Vacuum: High-Efficiency Particulate Air (HEPA) vacuum system furnished with HEPA filtration.
26. Lockdown Coat: A material applied to surfaces where Asbestos has been completely removed. The manufacturer shall determine the concentration of this material.
27. NESHAP: National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
28. NIOSH: National Institute for Occupational Safety and Health.
29. PAH: Polycyclic Aromatic Hydrocarbon.
30. PCB: Polychlorinated Biphenyl.
31. PCM: Phase Contrast Microscopy as it relates to clearance air, personnel exposure assessment, and ambient air monitoring. This procedure must follow the NIOSH Method 7400, Asbestos Fibers by PCM.
32. PLM: Polarized Light Microscopy used for bulk sample analysis with dispersion staining for the determination and quantifying of Asbestos in Bulk Samples building materials.
33. RCRA: Resource Conservation and Recovery Act.
34. SCAQMD: South Coast Air Quality Management District
35. Shower Room: A room between the Clean Room and the Equipment Room in the worker Decontamination Enclosure System furnished with hot and cold running water controllable at the tap, and suitably arranged for complete showering during Decontamination.
36. Staging Area: Areas near the Waste Transfer Airlock where containerized Asbestos waste is temporarily placed prior to permanent removal from the Work area.
37. Surfactant: A chemical wetting agent added to water.
38. TEM: Transmission Electron Microscopy as defined for Asbestos clearance air monitoring within AHERA. This procedure must follow the NIOSH Method 7402, Asbestos Fibers by TEM.
39. TSDF: Treatment Storage Disposal Facility.
40. TSI: Thermal System Insulation as defined in AHERA.
41. USEPA or EPA: United States Environmental Protection Agency
42. Waste Transfer Airlock: A Decontamination system provided for transferring containerized waste from inside to outside of the Work area.

1.3 PROCEDURES

- A. Contractor shall perform all asbestos abatement Work and any other work done in conjunction with the asbestos abatement, as specified herein and in compliance with all Applicable Code Requirements. See paragraph C below.
- B. The most recent edition of any relevant regulation, standard, document or code shall be in effect.
- C. Contractor shall comply, without limitation, with the following:
 - 1. Code of Federal Regulations (CFR).
 - a. 29 CFR §1910.134 Respiratory Protection
 - b. 29 CFR §1910.145 Specifications for Accident Prevention Signs and Tags
 - c. 29 CFR §1926.1101 Construction Standard for Asbestos, Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite, and Tremolite
 - d. 29 CFR §1926.050 Stairways and Ladders
 - e. 29 CFR §1926.59 Hazard Communication – Construction
 - f. 29 CFR §1926.450-454 Scaffolds and Training
 - g. 40 CFR 61 Subpart A General Provisions
 - h. 40 CFR 61 Subpart M National Emissions Standard for Hazardous Air Pollutants (NESHAP)
 - i. 40 CFR Part 763 Subpart E, EPA AHERA Regulations
 - j. 49 CFR 171 through 180 U.S. Department of Transportation
 - 2. California Code of Regulations (CCR).
 - a. Title 8 §341.6 Registration, Asbestos Related Work
 - b. Title 8 §1529 Construction Industry Safety Orders
 - c. Title 8 §3203 Injury and Illness Prevention Program
 - d. Title 8 §5144 Respiratory Protective Equipment
 - e. Title 8 §5194 Hazard Communication
 - f. Title 8 §5208 General Industry Safety Orders (GISO), asbestos
 - g. Title 22 Hazardous Waste Handling
 - h. Title 24, Part 9, Chapter 26, California Fire Code 2022
 - i. Title 24, Part 3, California Electrical Code 2022
 - 3. American National Standards Institute (ANSI) Publications.
 - a. Z9.2-79 Fundamentals Governing the Design and Operation of Local Exhaust Systems
 - b. Z88.2-80 Practice for Respiratory Protection
 - 4. American Society for Testing and Material (ASTM) Publication.
 - a. E 1368-11 Standard Practice for Visual Inspection of Asbestos Abatement Projects
 - 5. Underwriters' Laboratories, Inc. (UL) Publication.
 - a. 586-85 High Efficiency, Particulate, Air (HEPA) Filter Units

- b. Cal. Lab, Code Sections 6501.5, 6501.8, and 6503.5.
 - 6. South Coast Air Quality Management District (SCAQMD).
 - a. Rule 1403
 - 7. Los Angeles City Fire Department (LAFD).
 - a. Rule 68 Note: Contractor is exempt from paying permit fees.
- D. Transportation:
 - 1. Regulations pertaining to the transport and disposal of hazardous substances/materials include, but are not limited to, the following:
 - a. Department of Transportation 49 CFR 171 through 180.
 - b. Department of Transportation 49 CFR 387 (46 FR 30974, 47073).
 - c. Department of Transportation DOT-E 8876.
 - d. Environmental Protection Agency 40 CFR 136 (41 FR 52779).
 - e. Environmental Protection Agency 40 CFR 261, 262 and 761.
 - f. Resource Conservation and Recovery Act (RCRA).
 - g. California Vehicle Code, CHP Regulations (Cal.Code Regs., tit. 13).
 - h. California State Fire Marshal Regulations (Cal. Code Regs., tit. 19).
 - 2. Any transporter of hazardous substances shall be licensed in the state in which handling and transportation will take place in accordance with all applicable regulations.
 - 3. Comply with OSHA (Occupational Safety and Health Administration) Standards and Regulations contained in Title 29 Code of Federal Regulations, Part 1910.120 "Hazardous Waste Operations and Emergency Response."
 - 4. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.4 SUBMITTALS

- A. Contractor shall submit to University's Representative one (1) copy in a pdf, OCR (Optical Character Recognition) format of the following documentation prior to the start of work:
 - 1. Written notification to the following regulatory agencies:
 - a. California Division of Occupational Safety and Health (DOSH)
 - b. South Coast Air Quality Management District (SCAQMD)
 - c. Los Angeles City Fire Department (LAFD) – Rule 68 Note: Contractor is exempt from paying permit fees.
 - 2. Registration with the Division of Occupational Safety and Health (DOSH) as an asbestos abatement Contractor per the requirements in 8 CCR §341.6 through 361.14.
 - 3. When rental equipment is to be used in Abatement areas or to transport asbestos contaminated waste, a written notification concerning the intended use of the rental equipment shall be provided to the rental agency with a copy submitted to the University.
 - 4. A marked-up, site-specific set of floor plans showing locations and lay-out of work area enclosures, decontamination units, air filtration devices, temporary fire protection, waste containers, utility (e.g., water, electrical sources), staging areas, and emergency exiting from the building.

5. SCAQMD Permits for all HEPA vacuums and negative air machines brought to or used on the Project site.
 6. Documentation that Contractor's employees, including foreman, supervisor and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities have received training as required by CCR Title 8, Section 1529. All training certificates shall be current within one year.
 7. Documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. All respirator fit-testing certificates shall be current within one year.
 8. Documentation that Contractor's employees, including foreman, supervisor and any other company personnel or agents who may be exposed to airborne asbestos fibers have successfully passed a medical examination and are medically qualified to wear respiratory protection. All medical exam documentation shall be current within one year.
 9. Safety Data Sheets (SDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.
 10. An emergency preparedness plan as specified in Paragraph 1.7 herein.
- B. Contractor shall submit the following information to University's Representative in a pdf, OCR (Optical Character Recognition) format, on a daily basis or whenever requested during progression of the work:
1. Copies of Contractor's respiratory protection program, and injury and illness protection program.
 2. Copies of daily Project site entry logbooks with information on worker and visitor access.
 3. Initial air monitoring results for HEPA negative air filter unit exhaust as required by SCAQMD. Collect air samples on the first day of abatement activities.
 4. Logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, and other engineering controls.
 5. Copies of all original laboratory analytical reports for Contractor employee's personal air sampling exposure data.
- C. Contractor shall submit one (1) copy in a pdf, OCR (Optical Character Recognition), format the following close-out information to University's Representative following completion of the Project:
1. Copies of Project Log Book including Worker submittals, Project daily logs, air sample reports and manifests.
 2. Asbestos Work Description Form (attached at the end of this Section 02 8213).
 3. These documents shall also be sent to:
UCLA Office of Environment, Health & Safety
501 Westwood Plaza, 4th Floor
Box 951605
Los Angeles, CA 90095-1605
asbestosandlead@ehs.ucla.edu

1.5 NOTICES

- A. Post in the clean room area of the worker decontamination enclosure the following:
1. Copies of written notification to the regulatory agencies listed in Paragraph 1.4 herein.
 2. Employee Daily Sign-in Log.

3. Visitor Entry and Exit Log.
4. Emergency telephone numbers for Contractor and University's Representative including Construction Project Manager, Environmental Consultant and Asbestos & Lead Specialists.

1.6 SITE SECURITY

- A. The work area shall be restricted only to authorized, trained and protected personnel, including Contractor, Contractor's employees, University employees and representatives, State and Local inspectors.
- B. A list of authorized personnel shall be posted at the entrance of the Regulated Area. Entry into the work area by unauthorized individuals shall be reported immediately to University's Representative.
- C. A logbook shall be maintained at the entrance of the Regulated Area. All persons entering the Regulated area shall record their name, company affiliation, time in, and time out for each entry and exit.
- D. Access to the work area shall be through a worker decontamination system located at the designated entrance to the area. All other means of access shall be locked or blocked by the erection of plywood or particle board barriers so as to prevent entry to or exit from the work area, except for emergency exits which shall not be locked from the inside but shall be sealed with polyethylene sheeting and tape until needed.
- E. Contractor shall be responsible for Project site security during abatement operations in order to protect work efforts and equipment.

1.7 EMERGENCY PLANNING

- A. Emergency planning and procedures shall be developed by Contractor prior to abatement initiation.
- B. Emergency procedures shall be in written form and prominently posted. Contractor shall ensure that all persons entering the work area read these procedures and understand the Project site layout, location of emergency exits and emergency procedures.
- C. Emergency planning shall include considerations of fire, explosion, electrical hazards, slips, trips and falls, confined spaces, and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided by Contractor.
- D. Employees shall be trained in evacuation procedures in the event of work place emergencies.
 1. For non-life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the work place to obtain proper medical treatment.
 2. For life-threatening injury or illness, worker decontamination shall take least priority. After measures to stabilize the injured worker, remove him from the work place and secure proper medical treatment.
 3. Telephone numbers of all emergency response personnel shall be prominently posted in the clean and equipment rooms.

1.8 RESTRICTED HOURS OF WORK AND ACCESS

- A. As specified in individual Job Orders.

1.9 ACTIVITIES AND QUALIFICATIONS

A. Qualifications:

1. Comply with the provisions of the California Labor Code, Division 5, Part 1, as it pertains to safety in employment and the applicable provisions of Title 8, Chapter 4, Subchapters 1 through 21, California Code of Regulations (CCR) as it pertains to Occupational Safety and Health, and Subchapter 7, Section 5208 Article 4, and Section 1529, Asbestos regulations.

B. Abatement Activities:

1. The Asbestos Abatement work shall be performed by persons who comply with all applicable Federal, State, and local regulations including AHERA certified training.
2. Provide all labor, materials, services, insurance, permits, and equipment necessary to perform the Work in accordance with all applicable Federal, State, and Local regulations and this Specification.
3. For Class I asbestos work, collect pre-Abatement air samples. Results shall be submitted prior to commencement of the Work of this section. Include location of Samples, name of air sampling professional, equipment, and methods utilized for sampling and analysis.
4. Submit weekly job progress reports detailing Abatement activities for Projects with schedules that exceed thirty days of Abatement work. Include review of progress with respect to previously established Milestones and schedules, major problems and action taken, injury reports, equipment breakdown, and air sampling results.
5. Within five (5) workdays of transport and/or disposal, submit copies of all transport manifests, disposal receipts, and weight certificates for all Asbestos waste removed from the Work area during the Abatement process. Weight certificates shall indicate in pounds the net weight of waste disposed from the Project site as indicated on the manifest.
6. Submit copies in a pdf, OCR (Optical Character Recognition) format on a daily basis of the Work site entry logbooks.
7. Submit logs on a weekly basis documenting filter changes on respirators, HEPA Vacuums, HEPA Filtered ventilation units, water filtration units, and other approved engineering controls.
8. Submit results of materials testing conducted during Asbestos Abatement work for purposes of utilization during such activities. (i.e., depth test, substitution materials, etc.)
9. Where Decontamination Enclosure System is required, post at the entrance a list containing the names, addresses, and telephone numbers of the entity performing the Work of this section, designated Supervisor, University's Representative, the testing laboratory and any other personnel who may be required to access the Work area or perform services during the Abatement Work.

C. Asbestos Related Disturbance:

1. The Asbestos Related Disturbance Work shall be performed by persons who comply with all applicable Federal, State, and local regulations including AHERA certified training.
2. Within ten (10) days of analysis, submit results of air sampling data collected for Cal/OSHA compliance air monitoring during the course of the Asbestos Related Disturbance (Class III asbestos work). If this data is used to discontinue use of employee

protective equipment then the data shall be provided before discontinuing use of protective equipment.

1.10 FIRE PROTECTION

- A. All plastic, spray-on strippable coatings and structural materials used in the asbestos abatement process shall be UL approved and certified as flame resistant or noncombustible.
- B. All combustible rubbish and debris, including properly bagged asbestos shall be properly disposed of at the end of each working day.
- C. A minimum of one (1) 4A/60BC dry-chemical extinguisher shall be maintained at each of the following locations:
 - 1. At each corner of the work area. Where no clear corners exist, four (4) extinguishers shall be placed around the exterior wall of the work area so that they are approximately 25 percent of the total distance apart.
 - a. Exception: Where the total abatement containment area is less than 1,000 square feet, two (2) 4A/60BC extinguishers shall be provided. All extinguishers shall be clearly identified with red tape.
 - 2. Contractor shall ensure that on site personnel are aware of the location and proper use of all extinguishers and other fire/life safety equipment.
- D. Maintain a fire watch for a minimum of thirty (30) minutes after the cessation of work.
- E. Maintain fire/life safety information in the project log.
- F. A statement shall be prepared at the conclusion of each work day, signed by Contractor, confirming that a survey of the work site has been made and that any unsafe fire/life safety conditions have been rectified.
- G. In the absence of a functioning automatic fire detection system connecting the building's central alarm system in the area undergoing abatement or respray, a fire watch shall be maintained on a 24-hour basis until:
 - 1. The final clean air certificate is issued.
 - 2. All respray is completed in buildings where fire protective coatings have been removed.
- H. Any work requiring welding, cutting, open torches and other hot work operations and equipment shall comply with 2022 California Fire Code Title 24, Part 9.
- I. All existing fire detection, alarm systems, connections and standpipes shall remain in place, active and unobstructed. Any alteration to this equipment shall be approved by University's Representative.
- J. Existing fire alarm manual pull boxes, fire department communication jacks, and signaling systems shall be maintained in place and active. The foregoing items shall be clearly marked with signs containing lettering which is a minimum of 3" X 1/2" wide on a contrasting background. If the foregoing items are covered by plastic, each device shall be surrounded by a square of red duct type tape. In addition, a cutting device, also surrounded by red tape, shall be kept immediately adjacent to the device.
- K. All existing sprinkler systems shall remain active. Sprinkler heads may be covered with a thin, .003" or less, plastic bag during abatement only so as to avoid their contamination.

- L. Fire rated partitions, doors, and other fire cutoffs shall not be temporarily or permanently modified without the approval of University's Representative.
- M. A single switch or set of switches shall be provided for the emergency shutdown of all negative air equipment located in the containment area. This switch or set of switches shall be for emergency use by the fire department personnel. The switches shall be located in a non-contaminated area near the clean exit of the decontamination station, and shall be clearly identified using a sign with minimum 3" X 1/2" lettering on a contrasting background. The sign shall read as follows: "NEGATIVE AIR MASTER SHUT OFF."
- N. The asbestos abatement process shall not cause a building to have an amount of exiting less than that required for the existing occupant load. In all cases where the required exiting must be obstructed, an alternate means of exiting shall be provided as approved by University's Representative. A minimum of two (2) clearly marked exits shall be maintained from each floor during the abatement process. The second exit from a containment area may be covered with plastic upon University's Representative's approval. If this occurs, the covered exit shall be outlined with red duct type tape, and a cutting device shall be kept immediately adjacent to the door in an obvious and readily accessible location. The cutting device shall also be surrounded by a square of red tape as described above.
- O. The following shall apply in containment areas greater than 1,000 square feet:
 - 1. Five (5) "Tyvek" type protective entry suits, or equal, rated for use in an asbestos containment area, shall be provided for each containment site. All suits shall be extra-large and shall be kept in a separate, clearly identified, readily accessible container near the clean exit from the decontamination area. These suits shall be for the exclusive use of emergency personnel.

1.11 QUALITY ASSURANCE

- A. The Work of this Section shall be performed by an entity possessing the following minimum qualifications:
 - 1. A Comprehensive Quality Assurance Plan on file with the California Environmental Protection Agency.
 - 2. All Project site personnel shall wear personal protective equipment and protective clothing consistent with the levels of protection required for this Work as specified by CCR Title 8 §1529 Construction Industry Safety Orders.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General:
 - 1. All plastic, spray-on strippable coatings and structural materials used shall be UL certified as flame resistant or non-combustible. Safety Data Sheets (SDS) for flame resistant materials shall be made available upon request.
 - 2. Wood shall be pressure impregnable and certified as flame resistant.
 - 3. Polyethylene sheeting utilized for worker decontamination and barriers shall be black in color and shall be a minimum of 6 mils thick.

4. Disposal bags shall be of clear 6-mil polyethylene, pre-printed with labels as required by Environmental Protection Agency (EPA) regulation 40 CFR 61.152 (b) (i) (iv) or applicable Cal/OSHA requirements.
5. Disposal drums shall be metal, fiberglass or plastic with locking ring tops.
6. Stick-on labels as per EPA or Cal/OSHA
7. Warning signs as required by Cal/OSHA shall be utilized.
8. Deliver all materials in the original sealed packages, containers, or bundles bearing the name of the manufacturer and brand name.
9. Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient enough to prevent damage or contamination. Replacement materials shall be stored outside of the Abatement Work area until area is cleared for normal occupancy.
10. Damaged, deteriorating or previously used materials shall not be used and shall be removed from the Project site.

B. Removal, Encapsulation and Replacement:

1. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed with water in accordance with manufacturer's printed instructions.
2. The encapsulating agent to be applied shall adhere to the substrate surfaces from which asbestos-containing material has been stripped.
3. Encapsulants shall not be flammable.
4. Solvents used to remove mastic shall be low odor, non-noxious and an MSDS shall be submitted.
5. A sufficient supply of transparent 6-mil polyethylene glove bags, pre-labeled with the prescribed Cal/OSHA and EPA warnings.
6. Encapsulating agent applied to areas to be resprayed with fireproofing shall neither affect the resprayed fireproofing ability to bond to the substrate, nor reduce the UL rating of the fireproofing.
7. Replacement sprayed-on or trowel applied fireproofing shall meet required specifications and be non-asbestos-containing.
8. Replacement acoustical materials shall meet or exceed original materials and be non-asbestos-containing.

2.2 EQUIPMENT

A. General:

1. A sufficient quantity of differential pressure air filtration devices equipped with HEPA filtration and operated in accordance with ANSI Z9.2-79 (local exhaust ventilation requirements) and EPA guidance document EPA 560/5-85-024 Guidance for Controlling Asbestos-Containing Materials in Buildings. To calculate total air flow requirement:

$$\text{Total ft}^3/\text{min} = \frac{\text{Vol. of work area (in ft}^3\text{)}}{15 \text{ min}}$$

To calculate the number of units needed for the abatement:

$$\text{Number of units needed} = \frac{[\text{total ft}^3/\text{min}]}{[\text{capacity of unit in ft}^3/\text{min}]}$$

If air-supplied respirators are utilized, estimate the volume of supplied air and add to work place air volume when calculating filtration requirement. For small enclosures and glove bags, a HEPA filtered vacuum system shall be utilized to provide differential air pressure.

2. A manometer shall be used to continuously monitor pressure differential within removal area to ensure that an adequate level is maintained.
3. All project site personnel shall wear personal protective equipment and protective clothing consistent with the levels of protection for the Work as specified by CCR Title 8 1529 Construction Industry Safety Orders and as specified in Paragraph 1.4(C)(1).
4. Half-face air purifying respirators with P-100 (HEPA) filters at a minimum shall be utilized during removal tasks for this project.
5. Type "B" powered purifying respirators shall be utilized during removal tasks involving friable materials or in environments requiring eye protection. Contractor shall be responsible for assessing the proper protection factor and personal protective equipment necessary to protect employees relative to airborne contaminant concentration and permissible exposure limits.
6. Respirators shall be furnished to the abatement workers by Contractor. The respirators shall have been tested and approved by National Institute of Occupational Safety and Health (NIOSH) for use in asbestos contaminated atmospheres.
7. Full body disposable protective clothing, including head, body, and foot coverings shall be furnished to visitors in sizes adequate to accommodate movement without tearing.
8. Additional safety equipment (e.g. hard hats meeting the requirements of ANSI Standard Z89.1-1997, Z89.1-2003, Z89.1-2009, eye protection meeting the requirements of ANSI Standard Z87.1-1999, Z87.1-2003, Z87.1-2010, safety shoes meeting the requirements of ANSI Standard Z41.1-1991, Z41.1-1999, ASTM-2412-2005, or ASTM-2413-2005, disposable gloves as necessary, shall be furnished to all workers and authorized visitors.
9. Non-skid foot wear shall be furnished to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination
10. Provide respirator cartridges capable of filtering both asbestos and other organic vapors.
11. All equipment delivered to the Project site shall be free of all Asbestos and/or fibrous debris. No equipment with Asbestos and/or fibrous debris in or on it is permitted on University properties.
12. A sufficient supply of scaffolds, ladders, lifts and hand tools (e.g., scrapers, wire cutters, brushes, utility knives, wire saws, etc.) shall be furnished as needed.
13. Furnish a sufficient supply of disposable mops, rags, and sponges for work area decontamination.

B. Removal:

1. Sprayers are required with pumps capable of providing 500 pounds per square inch (PSI) at the nozzle tip at a flow rate of 2 gallons per minute for spraying amended water.
2. Rubber dustpans and rubber squeegees shall be furnished for cleanup.

3. Brushes utilized for removing loose asbestos-containing material shall have nylon or fiber bristles, not metal.
 4. A sufficient supply of HEPA filtered vacuum systems shall be furnished during cleanup.
- C. Encapsulation: Encapsulants shall be sprayed using airless spray equipment. Nozzle pressure shall be adjustable to within the 400 to 500 psi range.

PART 3 - EXECUTION

3.1 WORK AREA PREPARATION

- A. General:
1. Post warning signs meeting the specifications of Cal/OSHA General Industry Safety Order Section 5208 and 29 CFR 1926.1101 at any location and approaches to a location where airborne concentration of asbestos fibers may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from a work area to permit a person to read the sign and take necessary protective measures to avoid exposure. Additional signs may need to be posted following construction of work place enclosure barriers.
 2. Obtain University's Representative's approval prior to any utility shutdown.
 3. Temporary Electrical Service: Furnish, install and maintain all necessary temporary electrical equipment, connections, etc., as necessary for the Work. Before final acceptance, all temporary equipment and connections installed by Contractor shall be removed in a manner approved by University's Representative. Electric power will be provided by University at no cost to Contractor.
 - a. Service connections shall be made by Contractor to the existing electrical distribution system at a point which will be made available. This point of connection shall be made from the following:
 - 1) Power for small tools and lighting may be taken from the existing 120 Volt 60 Hz 1-phase convenience receptacles in the building. Power for larger equipment may be taken directly from the existing 208Y/120V 3-phase 4-wire lighting panel board on the same floor of this Project as approved by University's Representative.
 - 2) The load connected to any circuit shall not exceed 25% of the circuit or feeder capacity as labeled in the panel board.
 - 3) There shall be no disturbance to building occupants and functions as cables and conductors do not prevent closing of fire labeled doors.
 - 4) Ground fault interrupter outlets shall need to be furnished and installed in order to allow for temporary electric power hook up by Contractor. Contractor shall either itself have a current State of California contractor's C-10 (Electrical-General) license, or furnish the services of an electrical subcontractor having a current C-10 license, in order to accomplish this work. University's Representative will designate power sources on each floor upon Notice to Proceed.
 - b. Comply with all applicable electrical code requirements and Cal/OSHA requirements for temporary electrical systems.
 4. All intake and exhaust vents leading to and from the work area shall be sealed with two (2) layers of 6-mil polyethylene sheeting and duct tape. Also seal any seams in HVAC

- system components that pass through the work area. HVAC system preparation for abatement shall be as approved by University's Representative.
5. Contractor will provide sanitary facilities for abatement personnel outside of the enclosed work area and maintain them in a clean and sanitary condition throughout the project.
 6. University will furnish water for construction purposes. Contractor shall connect to existing system.
 7. Seal off all windows, doorways, corridor entrances, drains, ducts, grills, grates, diffusers, skylights and any other openings with two (2) layers of 6-mil polyethylene sheeting and tape. All glass windows and doors leading to the outside shall be covered with black polyethylene sheeting.
 8. Pre-clean all movable objects within the work area using a HEPA-filtered vacuum and/or wet cleaning method as appropriate. After cleaning, these objects shall be removed from the work area and carefully stored in an uncontaminated location.
 9. Pre-clean all fixed objects, including machinery, grilles and diffusers in the work area using HEPA-filtered vacuum systems and/or wet cleaning methods as appropriate. All cleaned fixed objects shall be covered with one (1) layer of 6-mil polyethylene sheeting and sealed with tape.
 10. Preparation of Elevator: A minimum of two (2) layers of 6-mil polyethylene sheeting shall be adhered to the walls and floors of the elevator in such a manner as to prevent loosening during the course of abatement.
 11. Elevators that pass through an asbestos work area shall be addressed in the following manner:
 - a. Elevator service to floor that is under containment shall be locked out and prevented from opening onto work area. Elevator door opening shall first be sealed with two (2) layers of 6-mil polyethylene securely fastened with duct tape. A hard-board barrier of 1/2" plywood shall then be provided. All seams shall be caulked and made air-tight. Two (2) additional layers of 6-mil polyethylene shall then be securely fastened over the hard-board barrier.
- B. Preparation for removal of asbestos-containing material or asbestos-containing wall joint compound/wall sheetrock, asbestos-contaminated carpet, asbestos-containing floor tile, **resilient sheet flooring**, floor leveling compounds, and/or **associated mastics/adhesives** and leveling compounds, asbestos-contaminated ceiling and wall mounted tiles/components, and/or associated mastics/adhesives, asbestos-containing caulk, asbestos-containing fireproofing, thermal system insulations, asbestos-containing HVAC duct insulations and mirrors/mastic using full containment (including removal of flooring materials using mechanical means):
1. Contractor shall coordinate the arrest of the heating, ventilation and air conditioning (HVAC) system with University's Representative which shall remain off during the duration of the abatement Project prior to isolating HVAC vents and all other critical openings such as windows, doors or holes with 2 layers of 6-mil. flame-resistant polyethylene sheeting.
 2. Contractor shall coordinated the arrest of all electricity from the work area prior to supplying temporary power on ground fault circuit interrupters (GFCI) for all electrical equipment in the work area.
 3. Walls, ceilings and floors shall be covered with a minimum of two (2) layers of 6-mil. flame-resistant polyethylene sheeting.
 4. Plastic shall be sized to minimize seams.
 5. Emergency exits shall be demarcated showing location of and direction towards with bright colored arrows located approximately 30" from the floor.

6. Contractor shall provide sufficient viewing ports to allow persons outside the containment to view all of the work area.
 7. The work area shall be maintained under a static pressure differential of -0.02 inches of water across any barrier at all times. This static pressure differential shall be continuously measured.
 8. Contractor shall furnish and install at least two (2) airless sprayers. Contractor shall demonstrate the ability to supply copious quantities of water to all areas of the work area prior to any work activity. Hudson-type or garden-type hand sprayers may be used in addition to but not in place of these specified wetting devices.
- C. Remove, clean and enclose in polyethylene the ceiling mounted objects such as light fixtures and other items that may interfere with the abatement process and were not previously cleaned and sealed. Utilize localized spraying of amended water and/or HEPA vacuums to reduce fiber dispersal during the removal of these fixtures.
- D. Commencement of work shall not occur until University's Representative has verified and approved the following:
1. Enclosure systems have been constructed and inspected.
 2. Differential pressure air filtration devices are functioning adequately.
 3. All pre-abatement submissions, notifications, postings and permits have been provided and are satisfactory to University's Representative.
 4. All equipment for abatement, cleanup and disposal are on hand.
 5. All worker training and certification is completed.

3.2 WORKER DECONTAMINATION ENCLOSURE SYSTEMS

- A. Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area. As a minimum, one system at a single location is required.
- B. Worker decontamination enclosure systems constructed at the Project site shall utilize 6-mil black polyethylene sheeting, or other approved materials for privacy.
- C. The worker decontamination enclosure system shall consist of at least a clean room, a shower room, and an equipment room, each separated from the other and from the work area by airlocks.
- D. Access between any two rooms in the decontamination enclosure system shall be through an airlock with at least three feet separating each curtained doorway.
- E. Clean rooms shall be sized to adequately accommodate the work crew. Space for storing respirators shall be provided in this area. Lockers for storing street clothes and other personal items, clean work clothes, clean disposable clothing, replacement filters for respirators, towels and other necessary items shall be provided in adequate supply in the clean room. A location for posting notices shall also be provided in the area.
- F. Shower room shall contain one or more showers as necessary to adequately accommodate workers. Each shower head shall be supplied with warm and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. An adequate supply of soap, shampoo and towels shall be supplied by Contractor and available at all times. Shower water shall be drained, collected and filtered through a system with at least 0.5-1.0 micron particle size collection capability.

- G. The equipment room shall be used for storage of equipment and tools at the end of a shift after they have been decontaminated using a HEPA filtered vacuum and/or wet cleaning techniques as appropriate. Replacement filters (in sealed containers until used) for filtration equipment, extra tools, containers or surfactant and other materials and equipment that may be required during the abatement may also be stored here as needed.
- H. Emergency exits shall be established and clearly marked with duct tape arrows or other effective ways to permit easy location from anywhere within the work area. If duct tape arrows are utilized, the arrows shall be a different color from the tape used to secure the polyethylene sheeting. Red or yellow duct tape is preferred to mark emergency exits.
- I. Emergency exits shall be secured to prevent access from uncontaminated areas and still permit emergency exiting. These exits shall be properly sealed with polyethylene sheeting which can be cut to permit exiting, if needed. A utility knife shall be taped close to the bottom of the exit for use in cutting the polyethylene sheeting in case of emergency.
- J. Maintenance of Work Place Barriers and Worker Decontamination Enclosure Systems:
 - 1. After the construction of all polyethylene barriers and decontamination system enclosures are complete, allow sufficient settling time to insure that barriers will remain intact and secured to walls and fixtures before actual abatement activities.
 - 2. Inspect all polyethylene barriers inside the work place and worker decontamination enclosure systems constructed to isolate the work area at least twice daily, prior to the start of each day's abatement activities. Contractor shall document inspections and observations in the daily project log.
 - 3. Damage and defects in the enclosure system shall be repaired immediately upon discovery.
 - 4. Use smoke tubes to test the integrity of the barrier system at least once for each 24 hour period or when requested by University's Representative.
 - 5. At any time during the abatement activities after barriers have been erected, if visible asbestos-containing material is observed outside of the work area or if damage occurs to barriers, work shall immediately stop, repairs made to barriers and the debris or residue cleaned up using appropriate HEPA vacuuming and wet mopping.
 - 6. If air samples collected outside of the work area during abatement activities indicate airborne fiber concentrations greater than 0.01 f/cc or pre-measured background levels (whichever is higher) work shall immediately stop for inspection and repair of barriers. Cleanup of surfaces outside of the work area using HEPA vacuums or wet cleaning techniques will be required.
 - 7. Install and initiate operation of differential pressure air filtration equipment as needed to provide one air change in the work area at least every 15 minutes. Openings made in the enclosure system to accommodate these units shall be made airtight with tape and/or caulking as needed. Insure that adequate power supply is available to satisfy the requirements of the filtration devices. Differential pressure air filtration devices shall be exhausted to the outside of the building. These shall not be exhausted into occupied areas of the building. Careful installation, air monitoring and daily inspections shall be conducted to insure that the ducting does not release fibers into the uncontaminated building areas.
- K. Once barriers are constructed, and the differential pressure air filtration devices are in operation, the containment shall be tested for leakage utilizing smoke tubes. Repair the barriers as needed.
- L. Monitor negative pressure within removal area to ensure that an adequate level is maintained. Check readings, and record, 3 times each work shift; at the beginning, at mid-point, and end.

3.3 ALTERNATIVE PROCEDURES

- A. If specified procedures cannot be utilized, a request shall be made in writing to University's Representative providing details of the problem encountered and recommended alternatives.
- B. Alternative procedures shall provide equivalent or greater protection than procedures that are replaced.
- C. Any alternative procedure shall be approved in writing by University's Representative prior to the implementation of the procedure.

3.4 WASTE CONTAINER REMOVAL AIRLOCK

- A. The waste container pass-out airlock shall be constructed away from the Decontamination Enclosure System. This airlock shall be in a location that provides direct access from Abatement Work area to the outside of the building if possible.
- B. This system shall consist of an airlock, container Staging Area, and another airlock providing access to outside Abatement Work area.
- C. The waste container airlock shall be constructed in similar fashion with similar materials as the Decontamination Enclosure System.
- D. This airlock system shall not be used to enter or exit the Abatement Work area.

3.5 WORKPLACE ENTRY AND EXIT PROCEDURES

- A. Personnel Entry and Exit:
 - 1. All workers and authorized personnel shall enter the work area through the worker decontamination enclosure system.
 - 2. Contractor shall ensure that all personnel who enter the work area sign the entry/exit log.
 - 3. Contractor shall ensure that all personnel, before entering the work area, read and are familiar with all posted regulations, personal protection requirements (including work place entry and exit procedures) and emergency procedures.
 - 4. All personnel shall proceed first to the clean room, remove all street clothes and appropriately don respiratory protection and disposable coveralls, head covering and foot covering. Hard hats, eye protection and gloves shall also be utilized. Clean respirator and protective clothing shall be provided and utilized by each person for each separate entry into the work area.
 - 5. Personnel wearing designated personal protective equipment shall proceed from the clean room through the shower room and equipment room to the main work area.
 - 6. Before leaving the work area, all personnel shall remove gross contamination from the outside of respirators and protective clothing by brushing and/or wet wiping procedures (small HEPA vacuums with brush attachments may be utilized for this purpose). Each person shall clean bottom of protective footwear in the walk off pan prior to entering the equipment room.
 - 7. Personnel shall proceed to the equipment room where they remove all protective equipment except respirators. Upon completion of abatement, protective equipment shall be properly cleaned for reuse or disposed of as asbestos contaminated waste.

8. Reusable, contaminated footwear shall be stored in equipment room when not in use in the work area. Upon completion of abatement, it shall be properly cleaned for reuse or disposed of as asbestos contaminated waste.
9. Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator then shower and shampoo to remove residual asbestos contamination. Various types of respirators will require slight modification of these procedures. An airline respirator with a HEPA filtered disconnect protection may be disconnected in the equipment room and worn into the shower. A powered air purifying respirator face piece will have to be disconnected from the filter/power pack assemble which is not waterproof, upon entering the shower. A dual cartridge respirator may be worn into the shower. Cartridges shall be replaced for each new entry into the work area.
10. After showering and drying off, personnel shall proceed to the clean room and don clean disposable clothing if there will be later reentry into the work area or street clothes if it is the end of the work shift.

3.6 REMOVAL PROCEDURES

- A. Wet all asbestos-containing and contaminated material with an amended water solution. The wetting agent will be mixed according to manufacturer's printed instructions and then applied using equipment capable of providing a fine spray mist, in order to reduce airborne fiber concentrations when the material is disturbed during removal and vacuuming. Saturate the asbestos-containing material; however, do not allow excessive water to accumulate. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. Maintain high humidity in the work area by misting or spraying to assist in fiber settling and reduce airborne concentrations.
- B. Saturated asbestos-containing material shall be removed in manageable sections. Removed material shall be containerized before moving to a new location for continuance of work. Loose floor tiles shall be containerized before moving to a new location for continuance of work. Surrounding areas shall be periodically sprayed and maintained in a wet condition until visible material is cleaned.
- C. Material removed from building structures or components shall not be dropped or thrown to the floor. Material shall be removed as intact sections or components and carefully lowered to the floor.
- D. Containers (double 6-mil polyethylene bags or drums) shall be sealed when full. Bags shall not be overfilled. They shall be securely sealed to prevent accidental opening and leakage by tying tops of bags in an overhand knot or by taping in gooseneck fashion. Do not seal bags with wire or cord. Bags shall be decontaminated on exterior surfaces by wet cleaning and HEPA vacuuming.
- E. Generator name and address labels shall be affixed to waste containers prior to disposal.
- F. Secure, mark and label container(s) holding accumulation of asbestos waste with the date when the hazardous waste began accumulation.
- G. Asbestos-containing waste with sharp-edged components (e.g., nails, screws, metal lath, tin sheeting) will tear the polyethylene bags and sheeting and shall be placed into drums for disposal.

- H. After removal of the asbestos-containing material, surfaces from which asbestos-containing materials have been removed shall be wet brushed and sponged or cleaned by some equivalent method to remove all visible residues.
- I. After the work area has been rendered free of visible residue, a thin coat of a satisfactory encapsulating agent shall be applied to all surfaces in the work area including structural members, building components and plastic sheeting on walls, floors, and covering non-removable items, to seal in non-visible residues.

3.7 CLEAN-UP PROCEDURES

- A. Remove and containerize all visible accumulations of asbestos-containing material and asbestos contaminated debris utilizing rubber dust pans and rubber squeegees to move material around. Do not use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to floor sheeting.
- B. Wet clean all surfaces in the work area using rags, mops and sponges as appropriate.
- C. Remove the cleaned secondary layer of plastic sheeting from walls and floors. Windows, doors, HVAC system vents and all other opening shall remain sealed. The differential pressure air filtration devices shall remain in continuous operation. Decontamination enclosure systems shall remain in place and be utilized.
- D. After cleaning the work area, provide a period of time to allow fibers to settle and HEPA vacuum and wet clean all objects and surfaces in the work area again.
- E. Remove all containerized waste from the work area and waste container pass-out airlock.
- F. Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.
- G. University's Representative will inspect the work area for visible residues. If any accumulation of residue is observed, it will be assumed to be asbestos and a second settling period and cleaning cycle repeated at no additional cost to University.
- H. The work area shall be cleaned until it is in compliance with all Applicable Code Requirements and all requirements specified herein. The criteria shall be in the form of visual inspections and airborne fiber concentrations. Additional cleaning cycles shall be provided, as necessary, at no cost to University until these criteria have been met.
- I. Following the satisfactory completion of clearance air monitoring, the remaining barriers may be removed and prepared for proper disposal. A final visual inspection by University's Representative will be performed. Unsatisfactory conditions may require additional cleaning and air monitoring at no additional cost to University.

3.8 ENCAPSULATION AND BRIDGING AGENTS

- A. All lockdown and Encapsulating Material, and bridging agents shall be reviewed by University's Representative prior to the commencement of the Work of this section.
- B. Encapsulating Material shall be sprayed applied with airless spray equipment. Nozzle pressure shall be adjustable within a range of 400 to 1500 PSI.
- C. Lock down coat shall be spray applied with low pressure providing a continuous even coat.

- D. Bridging agents shall be a palm or brush grade.
- E. All colorless lock down materials, Encapsulating Material, and bridging agents shall be furnished with a compatible color additive. A different color shall be furnished for each separate coat of applied material.
- F. Install penetrating type Encapsulating Material to penetrate existing sprayed applied Asbestos Containing Materials to a depth as required.
- G. During installation of the penetrating type Encapsulating Material, remove selected random core samples of the Asbestos Containing Materials in the presence of the University's Representative to verify depth of penetration.
- H. Lock down coating and Encapsulating Material for installation on hot water, steam, or any other high temperature equipment shall be manufactured and recommended for installation on high temperature systems.

3.9 AIR MONITORING

- A. Background Air Monitoring: Upon request from Contractor, University's Representative will conduct air monitoring to determine ambient baseline fiber levels prior to abatement. Ambient baseline fiber levels are presumed to be 0.01 f/cc or less in the event background air sampling is not performed.
- B. Area Air Monitoring: University will conduct in-progress air monitoring daily to determine area fiber levels outside and inside of containment, within the decontamination unit and in air exhausted by negative air machines.
- C. Personal Air Monitoring:
 - 1. At minimum, Contractor shall conduct representative (10% of crew) breathing zone personal air monitoring of its employees twice each shift and repeated daily.
 - 2. Monitoring shall be conducted by a qualified air professional experienced and knowledgeable about the methods of air monitoring and in accordance with 29 CFR 1926.1101.
 - 3. Monitoring results and appropriate laboratory analysis work shall be submitted to University's Representative within twenty-four (24) hours of the monitoring work.
- D. Clearance Air Monitoring:
 - 1. Following the completion of clean-up operations, notify University's Representative that work areas are ready for clearance air monitoring.
 - 2. Following a successful visual inspection as specified in Paragraph 1.3 herein, University will collect sufficient air samples within the work area to determine airborne fiber levels.
 - 3. All samples at all locations shall indicate concentrations of airborne fibers of 0.01 f/cc or less for release of the work area.
 - 4. Areas exceeding this level shall be re-cleaned using procedures specified in Paragraph 3.7 herein, and retested at no additional cost to University until satisfactory levels are obtained.
- E. The following shall apply for all air monitoring:

1. All testing shall be conducted by individuals trained in the NIOSH 582 course on Sampling and Evaluation of Airborne Asbestos Dusts and proficient participant in the NIOSH Proficiency Analytical Testing program.
2. All air tests shall utilize NIOSH Analytical Method 7400, Fibers (Phase Contrast Microscopy) unless Transmission Electron Microscopy is requested by University's Representative.

3.10 REESTABLISHMENT OF THE WORK AREAS AND SYSTEMS

- A. Reestablishment of the work area shall only occur following the completion of clean-up procedures and after clearance air monitoring has been performed and documented to the satisfaction of University's Representative.
- B. Polyethylene barriers shall be removed from walls, ceilings, and floors, maintaining decontamination enclosure systems and barriers over doors, window, etc. as required.
- C. Contractor and University's Representative shall visually inspect the work area for any remaining visible residues. Evidence of contamination will necessitate additional cleaning and air sampling at no additional cost to University, until approved by University's Representative.
- D. Following satisfactory clearance of the work area, remaining polyethylene barriers may be removed and disposed of as asbestos contaminated waste.
- E. Repair all areas of damage that occurred as a result of abatement activities at no additional cost to University.

3.11 STOP WORK ORDER

- A. University or University's Representative shall have the right to issue a Stop Work Order whenever Contractor's work, engineering controls, or air monitoring results are not in accordance with published regulations, contractual restrictions, or the abatement specifications. All costs resulting from the Stop Work Order shall be at Contractor's expense.
- B. The Stop Work Order shall first be given verbally to Contractor by either University or University's Representative, at which point all work shall cease. This shall be immediately followed by a written notification to stop work. If the situation is not corrected to University's or University's Representative's satisfaction within forty-eight (48) hours, Contractor shall be considered to be in breach of the Contract and will be subject to termination

3.12 TESTING AND TRANSPORT

- A. Refer to Section 02 8100, Transportation and Disposal of Hazardous Materials, Paragraph 3.1, Testing and Transport.

3.13 DISPOSAL PROCEDURES

- A. Refer to Section 02 8100, Transportation and Disposal of Hazardous Materials, Paragraph 3.2, Disposal Procedures.

END OF SECTION

(Note: UCLA Asbestos Removal Worksheets on the following 2 pages.)

UCLA

ASBESTOS WORK DESCRIPTION

Project Name: Medical Plaza Parking Booths

Project #: 907057.001 Order #: _____ Completion Date: _____

Base Contract	Change	Change Order
Amount: \$ _____	Order #: _____	Amount: \$ _____

Contractor Name: _____

Monitoring Consultant: _____

Building Name: Medical Plaza Parking Bldg.

Location
Within Building: Parking Booths three each

Contractor's description of work performed and methods used: _____

Check all that apply:

Scaffolding	☐
Full Containment	☐
Glove Bag	☐
Mini Enclosure	☐
Other Methods Employed:	_____

COMPLETE ALL INFORMATION ON NEXT PAGE

SECTION 03 10 00 CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Formwork for cast-in-place concrete as indicated.
2. Installation of items to be embedded in concrete, such as anchor bolts, inserts, embeds, and sleeves.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 03 2000: Concrete Reinforcing.
3. Section 03 3000: Cast-In-Place Concrete.

1.02 REFERENCES

A. American Concrete Institute (ACI) Publication:

1. ACI 318 – Building Code Requirements for Structural Concrete, Chapter 6, Formwork, Embedded Pipes, and Construction Joints.
2. ACI 347 – Guide to Formwork for Concrete.

B. American Plywood Association (APA):

1. Form No. V345 - Concrete Forming Design/Construction Guide.

C. National Institute of Standards and Technology (NIST):

1. NIST Voluntary Product Standard PS 1.

1.03 SUBMITTALS

- A. Submit detailed structural calculations and drawings approved and signed by a California registered Civil Engineer where the height of the falsework or vertical shoring, as measured from the top of the sills to the soffit of the superstructure exceeds 14 feet, or where individual horizontal span lengths exceed 16 feet, or where provision for vehicular traffic through falsework or shoring occurs. For all other falsework and shoring submit layout signed by California registered Civil Engineer, manufacturer's authorized representative or a licensed contractor experienced in the

usage and erection of falsework and vertical shoring. A copy of the plans and calculation shall be available at the jobsite at all times.

- B. Shop Drawings: Submit Shop Drawings indicating locations of forms, construction and expansion joints, embedded items, and accessories.
- C. Product Data: Submit manufacturer's Product Data for form materials and accessories.

1.04 REGULATORY REQUIREMENTS

- A. California Building Code (CBC), Chapter 19A.
- B. California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 4, Construction Safety Orders, Article 6, Excavations, Sections 1713 and 1717.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Storage shall prevent damage and permit access to materials for inspection and identification.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Form materials may be reused during progress of the Work provided they are completely cleaned and reconditioned, recoated for each use, capable of producing formwork of required quality, and are structurally sound.
- B. Form Lumber: WCLIB Construction Grade or Better, WWPA No. 1 or Better.
- C. Plywood: NIST Voluntary Product Standard PS 1, Group 1, Exterior Grade B-B Plyform or better, minimum 5-ply and 3/4 inch thick for exposed locations and at least 5/8 inch thick for unexposed locations, grade marked, not mill oiled. Furnished plywood with medium or high density overlay is permitted.
- D. Coated Form Plywood: For exposed painted concrete, plastic overlaid plywood of grade specified above, factory coated with a form coating and release agent Nox-crete", or equal.
- E. Tube Forms: Sonoco "Seamless Sonotubes," Ceme-Tube, Quik-Tube, or equal, of the type leaving no marks in concrete, one-piece lengths for required heights.
- F. Joist Forms: Code recognized steel or molded plastic types as required.
- G. Special Forms: For exposed integrally-colored concrete, plywood as above with high density overlay, plywood with integral structural hardboard facing or fibrous glass reinforced plastic facing, providing specified finish.

H. For Exposed Concrete Finish:

1. Plywood: New, waterproof, synthetic resin bonded, exterior type Douglas fir or Southern pine plywood manufactured especially for concrete formwork and conforming to NIST Voluntary Product Standard PS 1, Grade B-B grade, Class I.
 2. Glass-Fiber-Fabric Reinforced Plastic Forms: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to structural tolerances and appearance of finished concrete surfaces.
 3. Steel: Minimum 16 gage sheet, well matched, tight fitting, stiffened to support weight of concrete, without deflection detrimental to tolerances and appearances of finished concrete surfaces.
 4. Plywood: "Finland Form,," "Combi Form" by North American Plywood Corporation, "Plyform" by Roy O. Martin, "ProForm" by Pacific Wood Laminates, or equal. The material shall be furnished with hard smooth birch face veneers with phenolic resin thermally fused onto panel sides. Edges shall be factory sealed.
- I. Form Ties: Prefabricated rod, flat band, wire, internally threaded disconnecting type, not leaving metal within 1 1/2-inch of concrete surface.
- J. Form Coating: Non-staining clear coating free from oil, silicone, wax, not grain-raising, "Formshield" by A.C. Horn, Inc., "Release" by Edoco/Dayton Superior, "Cast-Off" by Sonneborn/BASF Building Systems or equal. Where form liners are furnished, provide form coatings recommended by form liner manufacturer.
- K. Form Liner: Rigid or resilient type by L.M. Scofield, Symons, Greenstreak, or equal.
- L. Void Forms: Manufactured by SureVoid Products, Inc., Sonotube, Void Form International, or equal. Forms shall be "WallVoid" for temporary support of concrete walls and grade beams spanning between supports, and "SlabVoid" for creating gaps between concrete slabs or steps and underlying soils. Void forms shall be fabricated of corrugated paper with moisture resistant exterior, and shall be capable of withstanding working load of 1,500 psf. Provide accessories as required.

PART 3 - EXECUTION

3.01 GENERAL

- A. Forms shall be constructed so as to shape final concrete structure conforming to shape, lines and dimensions of members required by Drawings and Specifications, and shall be sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together to maintain position and shape. Forms and their supports shall be designed so that previously placed structures will not be damaged.
- B. Use form coating at all surfaces in contact with concrete.

3.02 TOLERANCES

- A. Permitted abrupt or gradual irregularities in formed surfaces as measured within a 5 feet length with a straightedge shall per ACI 347, Table 3.1:

Class of Surface			
A	B	C	D
1/8 inch	1/4 inch	1/2 inch	1 inch

1. Class A: Use for concrete surfaces prominently exposed to public view.
2. Class B: Use for coarse-textured concrete-formed surfaces intended to receive plaster, stucco or wainscoting.
3. Class C: Use as a general standard for permanently exposed surfaces where other finishes are not specified.
4. Class D: Use for surfaces where roughness is not objectionable and will be permanently concealed.

3.03 ERECTION

- A. Plywood shall be installed with horizontal joints level, vertical joints plumb and with joints tight. Back joints by studs or solid blocking, and fill where necessary for smoothness. Reused plywood shall be thoroughly cleaned, damaged edges or surfaces repaired and both sides and edges oiled with colorless form oil. Nail plywood along edges, and to intermediate supports, with common wire nails spaced as necessary to maintain alignment and prevent warping.
- B. Openings for Cleaning: Provide temporary openings at points in formwork to facilitate cleaning and inspection. At base of walls and wide piers, bottom form board on one face for entire length shall be omitted until form has been cleaned and inspected.
- C. Chamfers: Provide 3/4 inch by 3/4 inch chamfer strips for all exposed concrete corners and edges unless otherwise indicated.
- D. Reglets and Rebates: As specified in Section 03 3000: Cast-In-Place Concrete.

3.04 REMOVAL OF FORMS

- A. Forms shall not be removed until concrete has sufficiently hydrated to maintain its integrity and not be damaged by form removal operations. Unless noted otherwise and/or permitted by the University Representative, columns and wall forms shall not be removed in less than five days, floor slabs in less than seven days, beams and girders in less than 15 days, pan forms for joists may be removed after three days, but joist centering shall not be removed until after 15 days, and ramp, landing, steps and floor slabs shall not be removed in less than seven days. Shoring shall not be

removed until member has acquired sufficient strength to support its weight, load upon it, and added load of construction.

- B. Compressive strength of in-place concrete shall be determined by testing field-cured specimens representative of concrete location or members, as specified in Section 03 3000: Cast-In-Place Concrete.

3.05 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

3.06 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 03 20 00 CONCRETE REINFORCING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Concrete steel reinforcement.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 01 4523: Testing and Inspection.
3. Section 03 1000: Concrete Forming.
4. Section 03 3000: Cast-In-Place Concrete.
5. Section 04 2200: Concrete Unit Masonry.

1.02 REGULATORY REQUIREMENTS

- A. Fabrication and placement of reinforcing shall be in accordance with requirements of CBC, Chapter 19A.**

1.03 REFERENCES

A. ASTM International:

1. ASTM A184 - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement.
2. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
3. ASTM A706 - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
4. ASTM A1064 - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.

B. American Concrete Institute (ACI) Publication:

1. ACI SP-66 – ACI Detailing Manual.

2. ACI 318 – Building Code Requirements for Structural Concrete, as modified by CBC.
- C. American Welding Society (AWS):
 1. AWS D1.4 – Structural Welding Code – Reinforcing Steel.

1.04 SUBMITTALS

- A. Shop Drawings: Submit steel reinforcement Shop Drawings. Include assembly diagrams, schedule of reinforcement, bending charts and slab and framing plans. Indicate lengths and location of splices, size and lengths of reinforcing steel.
- B. Closeout Submittals: Record exact locations of reinforcing that vary from Contract Documents.

1.05 QUALITY ASSURANCE

- A. Comply with the following as a minimum requirement:
 1. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice.
 2. American Welding Society (AWS).
 3. American Concrete Institute (ACI).
 4. CBC, Chapter 19A, Concrete.
- B. Source Quality Control: Refer to Division 01 Sections for general requirements and to the following paragraphs for specific procedures. Testing laboratory retained by the OWNER shall select test Samples of bars, ties, and stirrups from the material at the Project Site or from the place of distribution, with each Sample consisting of not less than two 18 inch long pieces, and perform the following tests according to ASTM A615, or ASTM A706, as applicable:
 1. Identified Bars: If Samples are obtained from bundles as delivered from the mill, identified as to heat number, accompanied by mill analyses and mill test reports, and properly tagged with the identification certificate so as to be readily identified, perform one tensile and one bend test for each 10 tons or fraction thereof of each size of bars. Submit mill reports when Samples are selected.
 2. Unidentified Bars: When positive identification of reinforcing bars cannot be performed and when random Samples are obtained; perform tests for each 2.5 tons or fraction thereof, one tensile and one bend test from each size of bars.

- C. Certification of Welders: Shop and Project site welding shall be performed by welding operators certified by AWS.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Avoid exposure to dirt, moisture or conditions harmful to reinforcing.
- B. Reinforcing steel bars, wire, and wire fabric shall be stored on the Project site to permit easy access for examination and identification of each shipment. Material of each shipment shall be separated for size and shape.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Provide reinforcing of sizes, gages and lengths indicated, bent to indicated shapes.

2.02 MATERIALS

- A. Steel Reinforcing Bars:
 - 1. ASTM A615, deformed grade 60 or 75 billet steel, as indicated on the drawings.
 - 2. Weldable reinforcing bars shall conform to ASTM A706.
- B. Bars or Rod Mats: ASTM A184.
- C. Welded Wire Fabric for Reinforcement: ASTM A1064.
- D. Tie Wire: ASTM A1064, fully annealed, copper-bearing steel wire, 16 gage minimum.
- E. Chairs, Spacers, Supports, and Other Accessories: Standard manufacture conforming to ACI 315 fabricated from steel wire of required types and sizes. For reinforcement supported from grade, provide properly sized dense precast blocks of concrete.

2.03 FABRICATION OF REINFORCING BARS

- A. Comply with CRSI Manual of Standard Practice for Reinforced Concrete Construction for fabrication of reinforcing steel.
- B. Bending and Forming: Fabricate bars of the indicated sizes and bend and form to required shapes and lengths by methods not injurious to materials. Do not heat reinforcement for bending. Bend bars No. 6 size and larger in the shop only. Bars

with unscheduled kinks or bends are not permitted. Provide only tested and permitted bar materials.

- C. Welding: Provide only ASTM A706 steel where welding is indicated. Perform welding by the direct electric arc process in accordance with AWS D1.4 and specified low-hydrogen electrodes. Preheat 6 inches each side of joint. Protect joints from drafts during the cooling process; accelerated cooling is not permitted. Do not tack weld bars. Clean metal surfaces to be welded of loose scale and foreign material. Clean welds each time electrode is changed and chip burned edges before placing welds. When wire brushed, the completed welds must exhibit uniform section, smooth welded metal, feather edges without undercuts or overlays, freedom from porosity and clinkers, and good fusion and penetration into the base metal. Cut out welds or parts of welds deemed defective, using chisel, and replace with proper welding. Prequalification of welds shall be in accordance with CBC requirements.
- D. Prior to procurement of reinforcing steel bar, furnish Environmental Product Declarations (EPDs) to University Representative to demonstrate compliance of material within Global Warming Potential (GWP) embodied carbon maximums as defined by the State of California under Buy Clean California.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Bars shall be bent cold. Bars partially embedded in concrete shall not be field bent except as indicated on reviewed Shop Drawings.
- B. Before installation and just prior to placing concrete, clean reinforcing of loose scale, rust, oil, dirt and any coating that could reduce bond.
- C. Accurately position, install, and secure reinforcing to prevent displacement during the placement of concrete.
- D. Provide metal chairs to hold reinforcement the required distance above form bottoms. In beams and slab construction, provide chairs under top slab reinforcement as well as under bottom reinforcement. Space chairs so that reinforcement will not be displaced during installation. Provide metal spacers to secure proper spacing. Stirrups shall be accurately and securely wired to bars at both top and bottom. At slabs, footings, and beams in contact with earth, provide concrete blocks to support reinforcement at required distance above grade.
- E. Install and secure reinforcement to maintain required clearance between parallel bars and between bars and forms. Lapped splices shall be installed wherever possible in a manner to provide required clearance between sets of bars. Stagger lapped splices. Dowels and bars extending through construction joints shall be secured in position

against displacement before concrete is installed and subsequently cleaned of concrete encrustations while they are still soft.

- F. Do not install reinforcing in supported slabs and beams until walls and columns have been installed to underside of slabs and beams or until construction joints have been thoroughly cleaned. Reinforcing shall be inspected before placement of concrete and cleaned as required.
- G. Use deformed bars unless otherwise indicated, except for spiral reinforcement.

3.02 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.03 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 03 30 00 CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Cast-in-place normal weight and lightweight concrete, placement and finishing.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 03 1000: Concrete Forming and Accessories.
3. Section 03 2000: Concrete Reinforcing.
4. Section 07 2600: Vapor Barriers.
5. Section 32 1313: Site Concrete Work.

1.02 REFERENCES

A. American Concrete Institute (ACI) Publication:

1. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials.
2. ACI 301 – Specifications for Structural Concrete.
3. ACI 302.1R – Guide for Concrete Floor and Slab Construction.
4. ACI 305R - Specification for Hot Weather Concreting.
5. ACI 306.1 – Standard Specification for Cold Weather Concreting.
6. ACI 308R – Guide to External Curing of Concrete.
7. ACI 318 - Building Code Requirements for Structural Concrete, as modified by CBC Sections 1903A and 1905A.

B. American Society for Testing and Materials (ASTM) Standards:

1. ASTM C31 – Standard Specification for Making and Curing Concrete Test Specimens in the Field.

2. ASTM C33 - Standard Specification for Concrete Aggregates.
3. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
5. ASTM C88 - Standard Test Method for Soundness of Aggregates by use of Sodium Sulphate or Magnesium Sulphate.
6. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
7. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
8. ASTM C150 - Standard Specification for Portland Cement.
9. ASTM C156 – Standard Test Method for Water Loss (from a Mortar Specimen) Through Liquid membrane-Forming Curing Compounds for Concrete.
10. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete.
11. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete.
12. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
13. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.
14. ASTM C289 - Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method).
15. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
16. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
17. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
18. ASTM C567 - Standard Test Method for Determining Density of Structural Lightweight Concrete.
19. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
20. ASTM C845 - Standard Specification for Expansive Hydraulic Cement

21. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
22. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
23. ASTM C1064 - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
24. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures.
25. ASTM C1315 – Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
26. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
27. ASTM C1567 - Standard Test Method for Determining the Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method).
28. ASTM D1751 - Standard Test Method for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
29. ASTM D7234 – Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
30. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
31. ASTM E1155 - Standard Test Method for Determining F_F Floor Flatness and F_L Floor Levelness Numbers.
32. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.
33. ASTM E1745 - Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
34. ASTM F710 – Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
35. ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

36. ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes.
37. ASTM F3010 – Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use under Resilient Floor Coverings.

1.03 SUBMITTALS

- A. Shop Drawings: Submit Shop Drawings indicating locations of cast-in-place concrete Work and accessory items such as vapor barriers. Include details and locations of reinforcing, embedded items, and interfacing with other Work.
- B. Mix Design Data: Submit concrete mix designs as specified herein and in Article 2.02.
 1. Submit name, address and telephone number of the concrete production facility which the Contractor intends to engage to design the concrete mixes. Submit name and qualifications of the proposed concrete technologist.
 2. Mix Design: Submit a concrete mix design for each strength and type of concrete indicated in the drawings or specified. Include water/cement ratio, source, size and amount of coarse aggregate and admixtures. Predict minimum compressive strength, maximum slump and air content percentage. Clearly indicate locations where each mix design will be used.
 - a. Water/cement ration for concrete slabs on grade shall be 0.50 maximum.
 3. Test Reports: Submit copies of test reports showing that the proposed mixes produce concrete with the strengths and properties specified. Include tests for cement, aggregates and admixtures. Provide gradation analysis.
- C. Material Samples: Submit Samples illustrating concrete finishes and hardeners, minimum 12-inch by 12-inch.
- D. Certificates: Submit certification that each of the following conforms to the standards indicated:
 1. Portland cement: ASTM C150.
 2. Normal weight concrete aggregates: ASTM C33.
 3. Lightweight concrete aggregates: ASTM C330.
 4. Aggregates: Submit evidence that the aggregate is not reactive in the presence of cement alkalis. In the absence of evidence, aggregate shall be tested by one of the methods in ASTM C33 Appendix XI, Methods for Evaluating Potential for Deleterious Expansion Due to Alkali Reactivity of an Aggregate. . Aggregates deemed to be deleterious or potentially deleterious may be used with the addition

of a material that has been shown to prevent harmful expansion in accordance with Appendix XI of ASTM C33, when approved by the building official, in accordance to CBC Section 1903A5A.

5. Curing materials: ASTM C171.

E. Admixtures: Submit product data for proposed concrete admixtures.

1.04 QUALITY ASSURANCE

A. Continuous inspection shall be provided at the batch plant and for transit-mixed concrete to run check sieve analysis of aggregate, check moisture content of fine aggregate, check design of mix, check cement being used with test reports, check loading of mixer trucks, and certify to quantities of materials placed in each mixer truck.

B. Inspection shall be performed by a representative of a testing laboratory selected by the University. The University will pay for inspection costs. Notify the University Representative and the laboratory 24 hours in advance of time concrete is to be mixed. Notify the laboratory of postponement or cancellation of mixing within at least 24 hours of scheduling time.

C. The Contractor shall assist the testing laboratory in obtaining and handling samples at the project site and at the source of materials.

D. Continuous batch plant inspection requirement may be waived in accordance with CBC Section 1705A.3.3.1. Waiver shall be in writing, including University Representative approval. When batch plant inspection is waived by the University Representative, the following requirements shall be met:

1. Approved inspector of the testing laboratory shall check the first batching at the start of work and furnish mix proportions to the licensed weightmaster.

2. Licensed weightmaster shall positively identify materials as to quantity and certify to each load by a ticket.

3. Tickets shall be transmitted to the Inspector by a truck driver with load identified thereon. The Inspector will not accept the load without a load ticket identifying the mix and will keep a daily record of placements, identifying each truck, its load and time of receipt and approximate location of deposit in the structure and will transmit a copy of the daily record to the University Representative.

4. At the end of the project, the weightmaster shall furnish an affidavit to the University Representative certifying that all concrete furnished conforms in every particular to proportions established by mix designs.

E. Special Inspections and Tests shall be in accordance with CBC Chapter 17, Reinforcement and Anchor testing per CBC Section 1910A and Specification Section 01 4523.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Store cement and aggregate materials so as to prevent their deterioration or intrusion by foreign matter. Deteriorated or contaminated materials shall not be furnished.
- B. Packaged materials shall bear the manufacturers and brand name label, and shall be stored in their original unbroken package in a weather tight place until ready for use in the work.

1.06 PROJECT CONDITIONS

- A. Cold Weather Requirements: Batching, mixing, delivering and placing of concrete in cold weather shall comply with the applicable requirements of ACI 306.1.
- B. Hot Weather Requirements: Batching, mixing, delivering and placing of concrete in hot weather shall comply with the applicable requirements of ACI 305R.
- C. Concrete temperature of freshly mixed concrete shall be determined per ASTM C1064.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement: ASTM C150. Portland Cement.
- B. Aggregates: Conform to the following standards:
 - 1. Normal weight concrete: ASTM C33.
 - 2. Lightweight concrete: ASTM C330, with fine aggregates per ASTM C33.
 - 3. Aggregate shall be tested for Potential Alkali Reactivity of Cement-Aggregate Combinations per ASTM C289.
 - 4. Nominal maximum size of coarse aggregate shall be no larger than:
 - a. 1/5 the narrowest dimension between sides of forms, nor
 - b. 1/3 the depth of slabs, nor
 - c. 3/4 the clear spacing between individual reinforcing bars or wires, bundles of bars, individual tendons, or ducts.
 - d. The Contractor may request the University Representative waiver of the above limitations reported per ACI 318, provided that the workability and methods of consolidation are such that the concrete can be placed without honeycombs or voids.

- C. Water: Water for concrete mixes, curing and cleaning shall be potable and free from deleterious matter.
- D. Admixtures: Shall be shown capable of maintaining essentially the same composition and performance throughout the work as the product used in establishing concrete proportions in accordance with ACI 318, Section 3.6.
 - 1. Admixtures containing chlorides or sulfides are not permitted.
 - 2. Air-entraining admixtures shall comply with ASTM C260. Air-entrained admixtures shall not be used for floor slabs to receive steel trowel finish.
 - 3. Admixtures for water reduction and setting time modification shall conform to ASTM C494.
 - 4. Admixtures for producing flowing concrete shall conform to ASTM C1017.
 - 5. Fly ash, pozzolan and ground granulated blast-furnace slag: Modify ACI 318 Sections 3.6.6 and 3.6.7 as follows:
 - a. Fly ash or other pozzolan used as a partial substitution for ASTM C150 Portland cement shall meet the following requirements:
 - 1) Shall conform to ASTM C618 for Class N or F materials (Class C is not permitted).
 - 2) 15 percent by weight of fly ash or other pozzolans shall substitute for ASTM C150 Portland cement provided the mix design is proportioned per ACI 318, Section 318 5.3.
 - b. Ground-granulated blast-furnace slag used as a partial substitution for ASTM C150 Portland cement shall meet the following requirements:
 - 1) Shall conform to ASTM C989.
 - 2) 15 percent by weight of ground-granulated blast-furnace slag shall substitute for ASTM C150 Portland cement provided the mix design is proportioned per ACI 318, Section 5.3.
 - 6. Admixtures containing ASTM C845 expansive cements shall be compatible with the cement and produce no deleterious effects.
 - 7. Silica fumes used as an admixture shall conform to ASTM C1240.
- E. Reinforcement Fibers: Chop strands of alkali-resistant polypropylene or nylon fibers added to the concrete mix for protection against shrinkage cracks.
- F. Expansion Joint Fillers: Preformed strips, non-extruding and resilient bituminous type, of thickness indicated, conforming to ASTM D1751.

G. Curing:

1. Curing Paper: Shall conform to ASTM C171 and consist of two sheets of kraft paper cemented together with a bituminous material in which are embedded cords or strands of fiber running in both directions. The paper shall be light in color, shall be free of visible defects, with uniform appearance.
2. Elevated slabs and slabs on grade may be cured at CONTRACTOR's option with curing and proactive water vapor emission and alkalinity control system. Products shall be approved by OWNER's Office of Environmental Health and Safety.
 - a. VaporSeal 309, by Floor Seal Technology, Inc., or equal.
 - 1) ASTM C156: 0.39 kg/m².
 - 2) ASTM C309: Exceeds requirements.
 - 3) ASTM C1315: Exceeds requirements.
 - 4) ACI 308R-01 Compliant.
 - b. Remedial Treatment: Water vapor emission and alkalinity control treatment, MES 100 by Floor Seal Technology, Inc. or equal.
 - 1) ASTM E96: <0.1 Perms.
 - 2) ASTM D1308: 14pH Resistant.
 - 3) ASTM D7234: 500+psi 100% concrete failure.
 - 4) ASTM F2170: 100%RH resistant.
 - 5) VOC Content: <100 g/L, meets SCAQMD Rule #1113.
 - 6) ASTM F3010: Meets Requirements.
 - c. Self-leveling Compounds: Ardex Engineered Cements, K15, or V1200, Schonox ZM Rapid, US Self Leveler Armstrong, S-194, or equal.

H. Floor Hardener: Water soluble, inorganic, silicate-based curing, hardening, sealing and dustproofing compound. Aquaseal W20 by Monopole Inc., Kure-N-Harden by BASF, Chem Hard by L&M, Liqui-Hard by W. R. Meadows, or equal.

I. Underlayment: Two component latex underlayment for filling low spots in concrete for both interior and exterior applications, from featheredge to a maximum of 3/8 inch in thickness. Underlayment shall be non-shrink and suitable for repairing exposed concrete surfaces and for underlayment of carpet, resilient, tile and quarry floor coverings. La-O-

Tex by TexRite, Underlay C, RS by Mer-Krete Systems, Underlayment 962 by C-Cure, or equal.

- J. Vapor Barrier: Refer to Section 07 2600, Vapor Barriers.
- K. Stair Treads and Nosings: Two part stair tread and nosing with ribbed abrasive bars. Fabricated from 6063-T5 or 6063-T6 extruded aluminum, mill finish. Anti-slip abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder. Color shall extend uniformly throughout filler.
 - 1. American Safety Tread: TP-311R.
 - 2. Balco Inc.: DST-330.
 - 3. Nystrom: STTB-P3.375E.
 - 4. Wooster Products Inc.: WP-RN3SG.
 - 5. Or equal.
- L. Grout: ASTM C1107, non-shrink type, pre-mixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing additives, capable of developing a minimum compressive strength of 7,000 psi at 7 days; of consistency suitable for application and a 30 minute working time.

2.02 CONCRETE MIX

- A. Mix shall be signed and sealed by a Civil or Structural Engineer currently registered in the State of California.
- B. Strength of Concrete: Strengths and types of concretes shall be as indicated in the Drawings. Unless otherwise indicated or specified, concrete shall be provided with minimum 28-day strength of 4500 psi (f'c).
- C. Concrete mix shall meet the durability requirements of ACI 318, Chapter 4.
- D. Concrete proportioning shall be determined on the basis of field experience and/or trial mixtures shall in accordance with ACI 318, Section 5.3. Proportions of materials shall provide workability and consistency to permit concrete to be placed readily into forms and around reinforcement under conditions of placement to be employed, without segregation or excessive bleeding.
- E. Ready-Mixed Concrete: Mix and deliver in accordance with requirements of ASTM C94.

PART 3 - EXECUTION

3.01 GENERAL

- A. Surfaces to receive concrete shall be free of debris, standing water, and any other deleterious substances before start of concrete placing.
- B. Time of Placing: Do not place concrete until reinforcement, conduits, outlet boxes, anchors, hangers, sleeves, bolts, and other embedded materials are securely fastened in place. Contact the Inspector at least 24 hours before placing concrete; do not place concrete until inspected by the Project Inspector.
- C. Pouring Record: A record shall be kept on the Project site of time and date of placing concrete in each portion of structure. Such record shall be maintained on the Project site until Substantial Completion and shall be available for examination by the University Representative.

3.02 TOLERANCES

- A. Concrete construction tolerances shall be as specified in ACI 117 and as modified herein.
- B. Floor Flatness (F_F) and Floor Levelness (F_L) shall be as indicated below:

	Specified Overall Value		Minimum Local Value	
	F_F	F_L	F_F	F_L
Slabs on ground: mechanical and electrical rooms, parking structures and mortar bed set tile and quarry flooring.	20	15	15	10
Slab on ground: carpet.	25	20	17	15
Slab on ground: thinset tile and resilient flooring.	35	25	24	17
Suspended slabs: mechanical and electrical rooms, parking structures and mortar bed set tile and quarry flooring.	20	15	N/A	N/A
Suspended slabs: carpet.	25	20	N/A	N/A
Suspended slabs: thinset tile and resilient flooring.	35	20	N/A	N/A

- C. Refer to ACI 302.1R, Tables 8.1 and 8.2 Slab on Ground and Suspended Flatness/Levelness Construction Guide, for recommended concrete placing and finishing methods.

- D. Floor Flatness and Floor Levelness shall be tested in accordance to ASTM E1155. Floor measurements shall be made within 48 hours after slab installation, and shall precede removal of shores and forms.

3.03 PREPARATION

- A. For installation of vapor barrier refer to Section 07 2600, Vapor Barriers.
- B. Reglets and Rebates:
 - 1. Form reglets and rebates in concrete to receive flashing, frames and other equipment as detailed and required. Coordinate dimensions and locations required with other related Work.
 - 2. If concrete slabs on grade adjoin a wall or other perpendicular concrete surface, form a reglet in wall to receive and carry horizontal concrete Work. Reglet shall be full thickness of the slab and shall be 3/4 inch wide, unless otherwise indicated. Requirement does not apply to exterior walks, unless specifically indicated.
- C. Screeds: Install screeds accurately and maintain at required grade or slab elevations after steel reinforcement has been installed, but before starting to place concrete. Install screeds adjacent to walls and in parallel rows not to exceed 8 feet on centers.

3.04 INSTALLATION

- A. Conveying and Placing:
 - 1. Concrete shall be placed only under direct observation of the Project Inspector. Do not place concrete outside of regular working hours, unless the Inspector has been notified at least 48 hours in advance.
 - 2. Concrete shall be conveyed from mixer to location of final placement by methods that will prevent separation or loss of materials.
 - 3. Concrete shall be placed as nearly as practicable to its final position to avoid segregation due to re-handling or flowing. No concrete that has partially hydrated or has been contaminated by foreign materials shall be placed, nor shall re-tempered concrete or concrete which has been remixed after initial set be placed.
 - 4. In placing concrete in columns, walls or thin sections, provide openings in forms, elephant trunks, tremies or other recognized devices, to prevent segregation and accumulation of partially hydrated concrete on forms or metal reinforcement above level of concrete being placed. Such devices shall be installed so that concrete will be dropped vertically. Unconfined vertical drop of concrete from end of such devices to final placement surface shall not exceed 6 feet.

5. Concrete shall be placed as a continuous operation until placing of panel or section is completed. Top surfaces of vertically formed lifts shall be level.
6. Concrete shall be thoroughly consolidated by suitable means during placement, and shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms.
7. Where conditions make consolidation difficult or where reinforcement is congested, batches of mortar containing same proportions of cement, sand, and water as provided in the concrete, shall first be deposited in the forms to a depth of at least one inch.

B. Cold Weather:

1. Provide adequate equipment for heating concrete materials and protecting concrete during freezing or near-freezing weather. All ground with which concrete is to come in contact shall be free from frost. No frozen materials or materials containing ice shall be used.
2. The temperature of concrete at the time of placement shall not be below the minimum temperatures given in Table 3.1 of ACI 306.1.
3. Concrete shall be maintained at a temperature of at least 50° F. for not less than 72 hours after placing or until it has thoroughly hardened. Cover concrete and provide sufficient heat as required. When necessary, aggregates shall be heated before mixing. Special precautions shall be taken for protection of transit-mixed concrete.

C. Hot Weather:

1. Concrete to be placed during hot weather shall comply with the requirements of ACI 318, Section 5.13.
2. Maintain concrete temperatures indicated in Table 2.1.5 of ACI 305R to prevent the evaporation rate from exceeding 0.2 pound of water per square feet of exposed concrete per hour.
3. Cool concrete using methods indicated in ACI 305R Appendix B.
4. Place and cure concrete as specified in ACI 305R Chapter 4.

D. Compaction and Screeding:

1. Tamp freshly placed concrete with a heavy tamper until at least 3/8 inch of mortar is brought to surface. Concrete shall then be tamped with a light tamper and screeded with a heavy straightedge until depressions and irregularities are eliminated, and surface is true to finish grades or elevations. Remove excess water and debris.

2. Where slabs are to receive separate cement finish or mortar setting bed, continued tamping to raise mortar to surface is not performed. Laitance shall be removed by brushing with a stiff brush or by light sandblasting to expose clean top surface of coarse aggregate.

E. Floating and Troweling:

1. When concrete has hydrated sufficiently, it shall be floated to a compact and smooth surface. After floating, wait until concrete has reached proper consistency before troweling. Top surfaces shall receive at least 2 troweling operations with steel hand trowel. Prior to and during final troweling, apply a fine mist of water frequently with an atomizing type fog sprayer. Omit troweling for slabs to receive a separate cement finish.
2. For interior finish slabs, final troweling shall provide a hard, impervious, and non-slip surfaces, free from defects and blemishes. Finished surface shall be within tolerances indicated in Article 3.02. Avoid burnishing. Do not add cement or sand to absorb excess moisture.
3. Vertical concrete surfaces shall be finished smooth and free from marks or other surface defects.

3.05 CURING

- A. Length of time, temperature and moisture conditions for curing concrete shall be in accordance with ACI 318, Section 5.11.
- B. Forms containing concrete, top of concrete between forms, and exposed concrete surfaces after removal of forms shall be maintained in a thoroughly wet condition for at least 7 consecutive days after placing.
- C. If weather is hot or surface has dried out, spray surface of concrete slabs and paving with fine mist of water, starting not later than 2 hours after final troweling and continuing until sunset. Surface of finish shall be kept continuously wet until curing medium has been installed.
- D. Immediately after finishing, monolithic floor slabs shall be covered with curing paper. Paper shall be lapped 4 inches at joints and sealed with waterproof sealer. Edges shall be cemented to finish. Repair or replace paper damaged during construction operations.
- E. When curing slabs with proactive water vapor emission and alkalinity control system:
 1. Coordinate and schedule application of curing compound with concrete pour schedule, while conforming to manufacturer's application instructions.
 2. When the surface of the concrete has hardened sufficiently to sustain foot traffic pre-cure slabs with liquefied product application following manufacturer's written instructions. Application shall be by trained applicators.

3. Monitor Environmental Conditions: Set up weather station 20 to 30 inches above freshly placed concrete. Record temperature, humidity and wind velocity measurements at 15 minute maximum intervals.
4. Calculate Evaporation Rate: Use recorded weather information in combination with nomograph per ACI 308R, Figure 4.1, Guide to Curing Concrete, to evaluate relevant evaporation rate.
5. When the bleed water rate of the concrete is approximately equal to the surface water evaporation rate, spray curing compound material throughout surface of slabs and decks, following manufacturer's written instructions. Application shall be by trained applicators.
6. Perform the following tests at least 28 days after placement of concrete and prior to floor covering installation. Submit to OAR test results indicating locations that do not comply with scheduled flooring installation requirements.
 - a. Calcium chloride testing per ASTM F1869.
 - b. Relative humidity testing per ASTM F2170.
 - c. Alkalinity testing per ASTM F710.
 - d. Perform concrete bond layer humidity meter testing to determine substrate surface acceptability.
7. Areas emitting moisture and alkalinity at rates exceeding floor covering manufacturer's published ASTM F1869 limits, shall receive a corrective coating, at no cost to the OWNER, as follows:
 - a) Mask and protect adjacent walls and floor surfaces from effects of scarification and application of remedial treatment.
 - b) Scarify slab surface in area of application by shot blasting or other method acceptable to corrective coating manufacturer.
 - c) Prepare and fill cracks, control joints and cold joints.
 - d) Apply two-component modified epoxy penetrant and coating with roller and squeegee over required treatment area; saturate surfaces to ensure a through mechanical bond.
 - e) Clean and fill divots, chips, voids and other surface irregularities with one hundred percent Portland cement based patching compound or cementitious fill.
 - f) Apply cementitious surfacing over coating in areas to receive resilient and wood floor coverings to facilitate adhesion; apply to a thickness of 1/8 inch.

3.06 FILLING, LEVELING AND PATCHING

- A. Concrete slabs exhibiting high or low spots and indicated to receive resilient floor covering or soft floor covering, shall have surfaces repaired. High spots shall be honed, or ground with power-driven machines to required tolerances. Low spots shall be filled with latex underlayment, installed in strict accordance with manufacturer's written recommendations.
- B. Holes resulting from form ties or sleeve nuts shall be solidly packed, through exterior walls, by pressure grouting with cement grout, as specified. Grouted holes on exposed surfaces shall be screeded flush and finished to match adjoining surfaces.
- C. Cement Base: Cement base shall be of the height, thickness, and shape detailed. Base shall be reinforced with one inch mesh, 18 gage, zinc-coated wire fabric. Base finish mixture shall be one part Portland cement, 2 parts of fine aggregate and one part pea gravel. Colored cement base shall include a chemically inert mineral oxide pigment in the mix.

3.07 FINISHING

- A. Soda and Acid Wash: Concrete surfaces to receive plaster, paint or other finish, and which have been formed by oil coated forms, shall be scrubbed with a solution of 1-1/2 pounds of caustic soda to one gallon of water. Surfaces where smooth wood or waste molds have been furnished shall be scrubbed with a solution of 20 percent muriatic acid. Wash with clean water after scrubbing.
- B. Sacking: Exposed concrete curbs, walls, and other surfaces shall be sacked by an application of Portland cement grout, floated, and rubbed. Sacking shall not be performed until patching and filling of holes has been completed. Entire sacking operation for any continuous area shall be started and completed within the same day.
 - 1. Mix one part Portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having consistency of thick paint. Wet surface of concrete sufficiently to prevent absorption of water from grout. Apply grout uniformly with a brush or spray gun, then immediately float surface with a cork or other suitable float, scouring wall vigorously.
 - 2. While grout is still plastic, finish surface with a sponge-rubber float, removing excess grout. Allow surface to dry thoroughly, then rub vigorously with dry burlap to completely remove dried grout. No visible film or grout shall remain after rubbing with burlap.
- C. Sandblasting: Exterior concrete surfaces to receive stucco dash coat finish, where plywood or other smooth forms have been furnished, shall be uniformly sand-blasted with sharp quartz sand under sufficient air pressure to remove dirt, form oil and other foreign materials, and roughen surface to provide a proper bond. Such surfaces shall be thoroughly washed with clean water after sandblasting.

- D. Abrasive: Concrete stair treads, landings, ramps and steps on interior and exterior of buildings, and interior exposed concrete floors in shop buildings shall receive an abrasive finish.
- E. Floor Hardener: Exposed interior concrete floors throughout shall be treated with floor hardener.
 - 1. Protect adjacent surfaces. Clean surfaces to receive treatment in accordance with manufacturer's instructions, ensuring that all stains, oil, grease, form release agents, laitance, dust and dirt are removed prior to application.
 - 2. Apply hardener in accordance with manufacturer's instructions as soon as concrete is firm enough to work on after final troweling.
- F. Cement Grout and Dry-Pack Concrete: Cement grout shall be mixed at the Project site and shall be composed of one volume of Portland cement and 2-1/2 volumes of fine aggregate. Materials shall be mixed dry with sufficient water added to make mixture flow under its own weight. When grout is used as a dry pack concrete, add sufficient water to provide a stiff mixture, which can be molded into a sphere.
- G. Broom Finish: Exterior stair treads and landings shall be provided with a non-slip broom finish in addition to abrasive finish specified.
- H. Abrasive Stair Nosing: Nosing shall be installed according to manufacturers written recommendations.

3.08 EXPANSION AND CONSTRUCTION JOINTS

- A. Construction Joints: Details and proposed location of construction joints shall be as indicated on the Drawings, located to least impair strength of structure, in accordance with the following:
 - 1. Thoroughly clean contact surface by sand blasting entire surface not earlier than 5 days after initial placement.
 - 2. A mix containing same proportion of sand and cement provided in concrete plus a maximum of 50 percent of coarse aggregate shall be placed to a depth of at least one inch on horizontal joints. Vertical joints shall be wetted and coated with a neat cement grout immediately before placing of new concrete.
 - 3. Should contact surface become coated with earth, sawdust, or deleterious material of any kind after being cleaned, entire surface shall be re-cleaned before applying mix.
- B. Expansion Joints: Provide expansion joints where indicated in walks and exterior slabs. Space approximately 20 feet apart, unless otherwise indicated. Joints shall extend entirely through slab with joint filler in one piece for width of walk or slab. Joint filler shall be 3/8 inch thick, unless otherwise indicated.

- C. Tooled Joints: Slabs, walks and paving shall be marked into areas as indicated with markings made with a V-grooving tool. Marks shall be round-edged, free from burrs or obstructions, with clean cut angles and shall be straight and true. Walks, if not indicated, shall be marked off into rectangles of not more than 12 square feet and shall have a center marking where more than 5 feet wide.

3.09 TESTING

A. Molded Cylinder Tests:

1. Contractor to secure a Testing Laboratory. Contractor's Testing Laboratory" as it is a defined term in Section 01 43 00, QUALITY ASSURANCE, and carries with it minimum experience requirements.
2. Inspector or testing lab personnel will prepare cylinders and perform slump tests. Samples for concrete strength shall be taken in accordance to ASTM C172. Each cylinder shall be dated, given a number, point in structure from which sample was obtained, mix design number, mix design strength and result of accompanying slump test noted.
3. Separate tests of molded concrete cylinders obtained at same place and time shall be made at age of three days, seven days, and 28 days. A strength test shall be the average of the compressive strength of two cylinders, obtained from the same sample of concrete and tested at 28 days or at test age designated for determination of f'c.
4. Test cylinders shall be prepared at the Project site and stored in testing laboratory in accordance with ASTM C31, and tested in accordance with ASTM C39.

B. Core Test: At request of the University Representative, cores of hardened concrete shall be cut from portions of hydrated structures for testing, in accordance with CBC and ASTM C42.

1. Provide 4 inch diameter cores at representative places throughout the structure as designated by the University Representative.
2. In general, provide sufficient cores to represent concrete placed with at least one core for each 4,000 square feet of building area, and at least 3 cores total for each Project.
3. Where cores have been removed, fill voids with drypack, and patch the finish to match the adjacent existing surfaces.

C. Concrete Consistency: Measure consistency according to ASTM C143. Test twice each day or partial day's run of the mixer.

D. Adjustment of Mix: If the strength of any grade of concrete for any portion of Work, as indicated by molded test cylinders, falls below minimum 28 days compressive strength

specified or indicated, adjust mix design for remaining portion of construction so that resulting concrete meets minimum strength requirements.

- E. Air Content Testing: Measure in accordance to ASTM C173 or ASTM C231, for each composite sample taken in accordance to ASTM C172.
- F. Defective Concrete:
 - 1. Should strength of any grade of concrete, for any portion of Work indicated by tests of molded cylinders and core tests, fall below minimum 28 days strength specified or indicated, concrete will be deemed defective Work and shall be replaced or adequately strengthened in a manner acceptable to the University Representative.
 - 2. Concrete Work that is not formed as indicated, is not true within 1/250 of span, not true to intended alignment, not plumb or level where so intended, not true to intended grades and levels, contains sawdust shavings, wood or embedded debris, or does not fully conform to Contract provisions, shall be deemed to be defective Work and shall be removed and replaced.
- G. Concrete for Equipment Pads, Mechanical and Electrical Work: Unless otherwise indicated, strength shall have a minimum $f'_c = 3,000$ psi. Exposed concrete shall be provided with a hand trowel finish with radius corners and edges. Form and place concrete where necessary as described in Section 03 1000 Concrete Forming and Accessories, and reinforced as described in Section 03 2000 Concrete Reinforcing. Calcium chloride shall not be furnished in any concrete mix provided for the installation of underground electrical conduits. For concrete encasement of more than one conduit, furnish 3/4 inch maximum aggregate.

3.10 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.11 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

END OF SECTION

SECTION 09 62 30 – SURFACE APPLIED DETECTABLE WARNING MATS

1.00 GENERAL

1.01 SCOPE

- B. Furnish all labor, materials, services, equipment and appliances required to perform all work to complete the Contract, including, but not limited to, these major items:
 - 1. Surface applied floor tile with detectable, tactile warning textured surface where indicated, using an exterior grade tactile warning surface described herein.
 - 2. Related trim and accessories

1.02 RELATED WORK IN OTHER SECTIONS

- A. Section 03 30 00: Concrete and Concrete Finishes

1.03 REFERENCE STANDARDS

- A. ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus.
- B. ASTM C501 – Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abrader.
- C. ASTM C1028 – Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
- D. ASTM D543 – Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents.
- E. ASTM D570 – Standard Test Method for Water Absorption of Plastics.
- F. ASTM D638 – Standard Test Method for Tensile Properties of Plastics.
- G. ASTM D695 – Standard Test Method for Compressive Properties of Rigid Plastics.
- H. ASTM D790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- I. ASTM D1037 – Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.
- J. ASTM D2486 – Standard Test Methods for Scrub Resistance of Wall Paints.
- K. ASTM D5420 – Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner

Impact).

- L. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- M. ASTM G155 – Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.

1.04 SUBMITTALS

- A. Provisions: Comply with Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's literature describing products, installation procedures, and routine maintenance.
- C. Samples: Submit three (3) samples 6 inches x 6 inches of surface applied tactile mat of the kind proposed for use.
- D. Shop drawings are required for products specified showing fabrication/profile details, plans of mat placement including the location of joints, edge conditions, installation details, and tile layout.
- E. Material Test Reports: Submit test reports from a certified independent testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. Include the manufacturer's written certification that ADAAG requirements for static coefficient of friction have been met for this Project.
- F. Maintenance Instructions: Submit copies of the manufacturer's specified maintenance practices for each type of tactile tile and accessory, as required. Include:
 - 1. Recommendations for cleaning and stain removal methods, and cleaning materials per Section 01 74 00.
 - 2. Furnish two copies of the manufacturer's Maintenance Manual for complete care of tile units. Submit to the University, through the University Representative, for review and approval.
 - 3. Furnish tile manufacturer's and supplier's name, address, and telephone number. For each product, include the product names, serial or model numbers, and colors.

1.05 QUALITY ASSURANCE

- A. Provide surface applied tactile mat, adhesives and component accessories as manufactured/distributed by a single manufacturer with a minimum of five years documented experience.
 - 1. Obtain each color, grade, finish, type composition, and variety of tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of work.
 - 2. Obtain ingredients for setting and grouting materials of a uniform quality from one manufacturer for each cementitious and admixture component, and from one source or producer for each aggregate.

- B. Installer's Qualifications: Experienced installer certified for installation of this type who has successfully completed warning tile/mat installations similar in material, design, and extent to that indicated for this Project with a minimum of five years of documented experience.

Quality Assurance: The installer must demonstrate certification and provide evidence of successful completion of warning tile/mat installations similar to those required for this Project.

Submittals: The Contractor is required to submit proof of the qualifications specified in the "Quality Assurance" paragraph.

- C. 2010 ADA Standards for accessible design Section 705: Provide tactile warning surfaces that comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title 49 CFR Transportation, Part 37.9 'Standards for Accessible Transportation Facilities', Appendix D, Section 705 'Detectable Warnings on Walking Surfaces' including criteria for Static Coefficient. In addition products must comply with California Title 24 requirements regarding patterns, color and sound on cane contact.
- D. Prior to approval of alternative manufacturers and system materials incorporated into the work, 'Alternative' manufacturers shall submit products that have documented field-testing results that meet or exceed the criteria established by the ADA and California Title 24 requirements and whose service and performance characteristics have been demonstrated acceptable for a minimum period of two years. Material was selected based on the specified manufacturer's colors and patterns, which are considered among salient features of specified materials. Other manufacturers shall comply with the following requirements in order to be considered for substitution:
1. Provide products in full compliance with materials, colors, textures, patterns, and other features indicated.
 2. Products are submitted to the University Representative for review and consideration for written prior approval per Section 01 25 00.
 3. Understand that materials, colors, textures, patterns, and other features indicated have been selected to establish a cohesive design element of the Project, therefore the University Representative is sole judge of compliance of substitutions with specified salient features.

1.06 SITE CONDITIONS

- A. Environmental Conditions and Protection:
1. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's written recommendations.
 2. Vent temporary heaters to the exterior to prevent damage to tile work from carbon dioxide build-up.

3. Maintain temperatures at 50 degrees F or more in tiled areas during installation and seven days after completion, unless referenced installation standard or manufacturer's instructions require higher temperatures.

B. Provide barricades or fencing/partitions to protect pedestrians/the public.

1.07 EXTRA STOCK

Deliver extra stock to the University. Furnish new materials from the same manufactured lot as materials installed and enclose in protective packaging with appropriate identification. Provide not less than 2 percent of the supplied materials for each type, color, and pattern installed.

1.08 DELIVERY, STORAGE AND HANDLING

A. Comply with Section 01 65 00.

B. Mat and adhesive materials shall be suitably packaged or crated to prevent damage in shipment or handling. Finished surfaces shall be protected by sturdy wrappings and shall be identified by model designation or number. Comply with requirements of ANSI A137.1 for labeling sealed tile packages. Mats shall be kept dry and away from sources of heat. Store on flat level surface.

B. Use all means necessary to store, handle and protect the materials of this Section before, during and after installation.

C. Mat and adhesives shall be delivered to location at building site for protected storage prior to installation.

1. Prevent damage or contamination to materials by water, foreign matter, and other causes.
2. Protect adhesives from freezing or overheating per manufacturer's instructions.
3. Handle tile with temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units.

1.09 WARRANTY

Surface applied detectable warning mat materials shall be guaranteed in writing by the Contractor against section failure due to excessive wear, cracking, peeling, color fade beyond established acceptable tolerances or loss of adhesion, for a period of five years from the date of final completion.

Refer to General Conditions and Section 01 78 00.

2.00 PRODUCTS

2.01 MANUFACTURER

- A. Detectable/Tactile Warning Tile and Accessories by Engineered Plastics Inc. (www.armor-tile.com, 1-800-682-2525) or equal.
- B. Substitutions: Per Section 01 25 00, alternative products are compliant with the requirements project and referenced code requirements.
- C. Color: Yellow conforming to Federal Color No. 33538. Integral color shall be homogenous throughout the entire cross section of the mat.

2.02 INSTALLATION MATERIALS

- A. Fasteners: Corrosion resistant, flat head drive anchors, ¼ inch diameter x 1½ inches long.
- B. Adhesive: Armor-Bond.
- C. Sealant: Armor-Seal.

3.00 EXECUTION

3.01 EXAMINATION

- A. Examine substrates to assure that tolerances are level within 1/8 inch in 10 feet – 0 inches, that cured hardscape finishes are conducive to adhesive setting and that the concrete substrates have not been cured with a curing compound that might inhibit the adhesion of the setting adhesive.
- B. Check to assure that utility rough-ins (that run below the) for plumbing, mechanical or electrical work have been installed and tested in the areas that could affect this paving work.
- C. Do not proceed with installation of paving mats until reported deficiencies have been corrected.

3.02 INSTALLATION

- A. During surface preparation and mat installation procedures, ensure adequate safety guidelines are in place in accordance with the applicable industry and government standards.
- B. The application of all adhesives, sealants and mechanical fasteners shall be in strict accordance with the guidelines set by their respective manufacturers.
- C. Throughout the installation phases of surface preparation and mat setting, ensure that care is taken to prevent damage to the work of this section as well as the work of adjoining trades.
- D. Immediately prior to installing the surface applied tactile tiles, all surfaces must be inspected to ensure that they are clean, dry, free of voids, curing compounds, projections, loose material, dust, oils, grease, sealers and is determined to be structurally sound before the application of the setting adhesive. All new substrate concrete paving must have been cured for at least 21 days. If present, curing compounds shall be removed by whatever means with cracks or holes larger than 1/8 inch patched. The setting adhesive requires that the substrate

and the ambient temperature be 50 degrees F minimum, completely dry with no precipitation 24 hours prior to, or during installation. Assure that sprinklers or other water sources will not be turned on during the installation and adhesive curing process.

- E. Cut and pre-position the mats as shown on the drawings. Inspect the mats and clean all dust and other contaminants from the surfaces to be adhered. Install duct tape to mask the substrate concrete paving, 1/8 inch beyond the edge of the pre-positioned mats. Set the mats in place one at a time, true and square following the manufacturers written instructions.
- F. Mix the ground adhesive according to the manufacturer's written instructions. Spread the adhesive to provide a complete 100 percent coverage over the concrete substrate surface using a clean, well-maintained 3/32-inch V notch trowel. Place mats tight against each other in their pre-laid positions. Press firmly from the center out to remove air bubbles. When butting mats together use duct tape to temporarily hold the seams tight. After mats are installed, remove the perimeter tape from the concrete substrate and firmly press down the corners of each mat. Cover the installed mats with plywood weighted down with several 25 pound sandbags. Keep weighted plywood in place for several hours to insure complete bonding of the adhesive.
- G. After mats are installed and adhesive has set, the fasteners shall be installed. Drill holes true and straight to the depth required using the recommended bit with holes located by the molded recess areas in the mats. Clean dust from the holes to provide clear passage for the anchor. Mechanically fasten tiles to the surface. Ensure that fastener has been set to full depth, straight and true.
- H. Apply a small bead of sealant along all joint seams avoiding contact with skin.
- I. Apply a small bead of sealant along all outer edges of mats avoiding contact with skin
- J. After mats have been fully installed and sealer has cured, the surface shall be cleaned, following the manufacturers recommended maintenance and cleaning procedures.

3.03 CLEANING AND PROTECTION

- A. Protect mats against damage during construction period. Comply with manufacturer's specifications.
- B. Protect mats against damage from rolling loads following installation by covering with plywood.
- C. After completion of work, detectable mats shall be protected from the work specified in other sections by covering with non-asphalt building paper. After the work specified in other sections has been completed the temporary protections shall be removed.
- D. Clean mats by method specified by the manufacturer, not more than four days prior to Date of Substantial Completion.
- E. Provide tile surfaces clean and free from cracked, broken, chipped, unbonded, and otherwise defective units

END OF SECTION 09 62 30

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 SCOPE (WHERE APPLICABLE)

- A. Surface preparation for the painting of all exterior/interior items, concrete, masonry, and metals, required to complete the Contract. Items include:
- B. Exterior Painting: Concrete columns and walls including returns.
South Elevation
North Elevation
East Elevation
West Elevation
- C. Interior Painting: Exterior wall surfaces include upturn beams, spandrels, and parapets from the top interior surface down to the floor deck, and the interior face of all columns.
- D. All beams and slab soffits.
- E. All columns, with interior color coding
- F. Exterior surfaces of utility room masonry walls and the interior surface of the East Elevation infill wall.
- G. Exposed pipes and conduits, including at roof.
- H. Stairway markings.

1.2 QUALITY ASSURANCE

- A. Provide finish coats that are compatible with the prime coats used.
- B. Correct any defect or other unsatisfactory conditions prior to painting.
- C. Ensure compliance with the state of California building codes, local ordinances in Los Angeles, and regulations set forth by the South Coast Air Quality Management District (AQMD) governing the use of paint materials. This includes adherence to specific codes such as ANSI/NFPA 70 or per California Building Code (CBC), as applicable. If a specific reference is not available, use "per Applicable Code requirements" as defined in the General Conditions.
- D. Paint Coatings: Paints and coating to be low-VOC or zero-VOC products in compliance with SCAQMD and CalGreen limits.

1.3 PROJECT CONDITIONS

- A. Do not apply paints when the temperature of the surfaces to be painted and the surrounding air temperatures are below 50°F, unless otherwise permitted by the manufacturer's printed instructions and as acceptable to the University Representative.

PART 2 PRODUCTS

2.1 MANUFACTURE

- A. Products manufactured by Dunn Edwards, Frazee, ICI/Dulux, Sherwin Williams, or Vista Paint with one brand/model followed by "or equal." Limited exceptions apply.
- B. Exceptions: Brand(s) not followed by "or equal" allowed only to match existing installations, with "to match existing" following product listing.

2.2 MATERIALS

- A. Materials for undercoats and finish coats of paint shall be ready-mixed and shall not be changed, except for thinning of undercoats (when required), or coloring, any of which shall be in strict accord with the recommendations of the manufacturer.

PART 3 EXECUTION

3.1 SCAFFOLDING

- A. Furnish and maintain scaffolding and similar temporary work necessary for the execution of work.

3.2 PREPARATION FOR PAINTING

- A. Surfaces to be clean and dry when paint is applied. Rooms in which painting is to be started shall be swept clean, dusted, and then all surfaces wiped with a damp cloth to remove dust and dirt.
- B. Work includes touching up shop prime coats, as required.
- C. Etch exposed galvanized metal before priming and painting.
- D. Concrete and masonry surfaces are to be fully cured and free of moisture. Clean surfaces of dirt, laitance, encrustations, and foreign matter, such as oils or other agents that are non-compatible with the paint.

3.3 THINNING

- A. Thin only as approved by printed instructions of the manufacturer of applicable paint.

3.4 PAINT APPLICATION

- A. Slightly vary the color of succeeding coats.
- B. Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet.
- C. Completed finish to be free from alkali burns and dull spots and shall be uniform in color and sheen.

- D. Ensure acceptable paint finishes of even, without runs, sagging, brush marks, skips, uniform color, complete opacity, free from cloudy or mottled appearance in surfaces undercoats not showing through, and evident thickness of coatings.

END OF SECTION 09 91 00

SECTION 10 14 23 - PARKING WAYFINDING SIGNS, GRAPHICS & SUPPORTS

PART 1 - GENERAL

1.1 GENERAL REFERENCE

- A. This section refers to signage specifications consisting of the following interior signage:
 - 1. Sign #102
 - 2. Sign #200
 - 3. Sign #202
 - 4. Sign #203
 - 5. Sign #204
 - 6. Sign #205
 - 7. Sign #207
 - 8. Sign #303
 - 9. Sign #304
 - 10. Sign #400
 - 11. Sign #501
 - 12. Sign #802
 - 13. Sign #810
- B. The Contractor shall be responsible for the quality of all materials and workmanship required for the execution of this contract including the materials and workmanship of firms or individuals who act as his sub-contractors. The Contractor shall be responsible for providing sub-contractors with complete and up-to-date drawings, specifications, sign schedules, etc.
- C. Written dimensions on the drawings shall have precedence over scaled dimensions. The Contractor shall verify and be responsible for all dimensions and conditions shown by these drawings.
- D. The University Representative shall be notified immediately of any discrepancies in the drawings or sign schedule, in field dimensions or conditions, as well as changes required in construction details.
- E. The Contractor shall follow plan drawings for size, material, letters, numbers, other graphic material, and mounting details. No deviations shall be allowed without the written consent and approval of the University Representative.
- F. The Contractor shall ensure all signs, font, and size conform to the University Standards.

1.2 LOCATION OF SIGNS

- A. The locations shown on the plan drawings are for general information only. Pipes, conduits, lighting, and other obstructions may not be shown on the plan drawings. Prior to installation, the Contractor shall contact the University Representative to finalize

the sign locations in the garage. A representative of the University will meet with the Contractor's representative at the site to identify final sign locations prior to installation.

- B. Maintain a 7'-0" minimum clearance under all ceiling mounted signs and 8'-2" minimum clearance for ADA Van Accessible floors, routes, and locations.
- C. Furnish to the University a written guarantee for the signage against all defects in the materials and workmanship for a period of on (1) year from the date of the final acceptance. Should any defects or faulty materials be discovered during the guarantee period, the Contractor shall promptly, upon notification by the University, proceed at their own expense to replace and repair the defective signage. Additionally, any damage to finishes, fixtures, and furnishings resulting from defective workmanship shall be repaired or replaced by the Contractor at their own expense.

Refer to General Conditions and Section 01 78 00, CLOSE-OUT SUBMITTALS, for the guarantee submittal form.

1.3 CODE REQUIREMENTS

- A. Work shall conform to all building and electrical codes:

- 1. Building Code: California Building Code (CBC)
- 2. Electrical Code California Electrical Code (CEC)

Additionally, where required by the authorities having jurisdiction, all work shall be approved and labeled by Underwriters Laboratories, Incorporated.

1.4 SUBMITTALS

- A. Comply with the Submittals Section.
- B. Sign Fabricator and Sign Installer qualifications: Submit for review and approval.
- C. Shop drawings - submit for review and approval:
 - 1. Method of fabrication and materials used.
 - 2. Fabrication and installation details for all signs, with materials, dimensions, mounting hardware, mounting heights, locations of supplementary supports, and accessories to be provided.
 - 3. Sign face layout out each sign with copy, graphics, font type, font size, symbols, and clearances.
 - 4. Sign schedule with message list, font styles, font sizes, graphic elements, materials, colors and tactile characters and Braille where applicable.
- D. Specifications - submit for review and approval. Include scope, all products and materials, and execution of work.
- E. Spec Data Sheets and Product Literature for:
 - 1. Sign face material.
 - 2. Reflective vinyl material.

3. Paint products.
- F. Samples – All samples shall be reviewed and approved prior to the fabrication of the signs:
 1. Full-size sample of each sign type. If approved the submitted signs may be used for the project.
 2. Samples of all materials.
 3. Samples of all colors be incorporated in the signs and graphics:
 - a. Reflective vinyl: 6"x6" sample for each color.
 - b. Powder coated products: 6"x6" sample for each color.
 - c. Painted products: 6"x6" sample of each color and color.
 4. Sign face material: 6"x6" samples:
 - a. Aluminum with painted powder coated background.
 5. Sign mounting hardware, neoprene pads, and support brackets for all sign types

1.5 ASSURANCE OF SIGN QUALITY

- A. The Contractor must examine all surfaces to which sign work is to be applied, and conditions under which the work is to be performed and notify the University, in writing, of any conditions detrimental to the performance of this work. Do not proceed with the sign work until unsatisfactory conditions have been corrected and are acceptable to the applicator. The project letter Style is Helvetica Medium. See drawing details for arrow design. All copy shall be upper and lower case with spacing as shown on the drawing details, unless noted otherwise.
- B. Starting of sign work by The Contractor will be construed as the Contractor's acceptance of the surface and conditions within any particular area.
- C. Do not paint or apply letters over dirt, rust, scale, moisture, grease, scuffed surfaces or conditions otherwise detrimental to the formation of a durable paint surface.

1.6 LABELS

- A. No labels are to be affixed to any sign or directory. All required labeling (i.e., City or Underwriters Laboratories, Incorporated) shall be approved by The University's Representative prior to application of any label.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Sheet and Plate: 0.125-inch sheet aluminum, ASTM B 209, and with at least the strength and durability properties of Alloy [5005-H32, 3003-H14, 6061-T6].
- B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for the type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5. *Retain if extruded aluminum is used for panel frames and internal stiffeners, caps, or other elements.*

Reflective sheeting: *PM to select type, standard is #1*

1. 3M Diamond Grade (DG3) reflective sheeting, 4000 Series (white 4090), or approved equal
2. 3M High Intensity reflective sheeting, 3930 Series, or approved equal
3. 3M Scotchlite Reflective Graphic Film, or approved equal
 - a. White 680-10
 - b. Black 680-85
4. Translucent films: 3M ElectroCut Film (over DG³), or approved equal:
 - a. Yellow 1171
 - b. Red 1172
 - c. Blue 1175
 - d. Green 1177
5. Opaque films: 3M ElectroCut Film (over DG³), or equal
 - a. Black 1178

C. Komatex:

1. Panels are to be cut from a 1/2" Black Kōmatexâ sheet, as manufactured by Kōmerling® or equivalent, if approved after the award of a contract by the Owner, true to form with no irregularities and all burrs and rough spots removed. The face and edges are to be smooth and free of tool marks.

D. PVC:

1. 8" diameter, 1/2" pipe thickness, Sch-80, PVC pipe with flush end caps.

E. Painted concrete surfaces to designate level color

1. Primer: Waterborne acrylic primer by Sherwin-Williams, Dunn Edwards, or equal
2. Paint: High performance architectural latex (eggshell) by Sherwin-Williams, Dunn Edwards, or equal
3. Job Conditions: Refer and adhere to all manufacturers' requirements for the application of paint.

2.2 SIGNS

A. Aluminum Sign

1. Furnish and Install smooth aluminum sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.
2. Provide aluminum sheet with strength and durability not less than properties specified in ASTM B209 and shall not warp during the useful life of the sign.
3. Sign panels shall have a powder coat finish on the front, back, and sides.

4. All signs of the same size shall be uniform in size.
 5. Panels shall be degreased, continuing no warping, and no ragged edges.
- B. Komatex Sign
1. Ceiling mounted panels consist of a panel 6 feet by 8 inches tall (or as noted on the plans). Upper case letters shall be 6" high when possible.
 2. Sign face is to be black unless otherwise indicated on the sign details. Letters, numbers, and other graphic elements are to be white reflective high intensity grade as manufactured by 3M, or equal if approved by the University.
 3. Panels are to be pre-drilled. Two holes are required 5/16" in diameter (1/2" from the top of sign). Zinc grommets or metal sleeves shall be used to protect all holes from wear. Aircraft cable 1/16" in diameter shall be used to hang signs.
 4. Panel signs are to have all four corners rounded (at a 1-1/2" radius or as per plans).
 5. All arrows are to be centered or as dimensioned on the drawings. All copy and arrows are to be white reflective vinyl unless otherwise indicated.
- C. PVC / Clearance Bar
1. The bar should be hung so that the distance from the bottom edge of the bar to the finished floor is the same distance indicated on the bar with the Contractor taking into consideration any changes in elevations that the vehicle may encounter.
 2. Aircraft cable 3/16" in diameter shall be used to suspend the clearance bars from the ceiling.
 3. Galvanized steel angle iron placed inside the clearance bar shall be used to fasten the eyebolts and other hardware as shown on the plans.
 4. An end cap of 1/2" marine plywood shall be placed on both ends.
- D. Signs shall have 3M DG3 reflective sheeting (white) copy and graphics.
- E. Font for copy shall be Helvetica Medium.
- F. Sign Mounting
1. Signs are to be mounted per drawing details.

2.3 COPY APPLICATION

- A. Edges of letters shall be sharp and straight. Letters shall be uniform in color, finish, and free of pinholes or other imperfections.
- B. Align all letter forms as to maintain a base line parallel to the sign format.

- C. All letter forms shall conform to the prescribed letter form proportions. Sign copy shall be clean, crisp, sharp and free of ticks and discontinuous curves, line waver and any other imperfections or blemishes.

2.4 PAINTING AND FINISHING

- A. All paint and finish materials shall be the finest quality; Sherwin Williams or equal and made for surface material to being applied to.
- B. All surfaces shall be properly prepared, primed and painted following the paint manufacturers recommendations. All final finishes shall be guaranteed for one year against peeling, chipping, crazing, and oxidizing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Engineering: The Contractor is responsible for the structural engineering of the signs, sign frames, brackets, mounting hardware, and attachments to the various building components. Shop drawings must be sealed and signed by a state licensed structural engineer.
- B. For P.T. Structures (Post-tensioned or Pre-Stressed): Do not drill into any P.T. Building element without prior written approval of the project structural engineer of record.
- C. Job Conditions: The Installer must examine site conditions, structures, and other conditions under which the signs are to be installed and notify the University in writing of conditions detrimental to the proper and timely installation of the work.
- D. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- E. Remove and replace material that is broken, chipped, cracked, abraded or damaged in any other way during the construction period including natural causes, accidents, and vandalism.
- F. Clean sign material using only cleaners and methods specified by the manufacturers.
- G. Installation Conditions: Installation of signs shall be carried out in a professional manner equal to the finest quality industry standards.
- H. Installation of signs shall follow the drawings and standards provided herein or the specification of the designer.
- I. Location plans are provided to locate (approximate) and identify all signs. Because pipes, conduits, other obstructions, and lighting are not shown on the plans, it is important that a representative of The University Representative. meets with the sign the contractor on site to finalize sign locations. Sign types that are found in the sign schedule are to identify specific sign units and their locations.

- J. Installed signs shall be clean, level, properly aligned, and true to line dimension, flush to surface unless otherwise specified, and free of excess adhesive, if used, with no damage to sign or surrounding area and other imperfections.
- K. Where stud fastenings or other mechanical fasteners are used, adequate mounting shall be provided to prevent unauthorized removal of the sign. All fastenings, structures, and units must be structurally sound and comply with all applicable code requirements and restrictions, if any. Holes drilled into columns, beams or joist must not be more than 1 inch in depth (or as specified by the structural engineer).
- L. Ceiling mounted signs shall be mounted using 1/16" aircraft cable as shown on the installation detail drawings.
- M. Protective coatings and identifying numbers and stickers, and paper shall be removed at the completion of installation.
- N. Damage to signs or surrounding surfaces shall be repaired to the satisfaction of the designer or shall be replaced.
- O. Protect units from damage until acceptance by the University. Ensure damaged units are appropriately resolved and approved by the University Representative.

3.2 Cleanup

- A. Overspray, dripped, and splattered paint shall be removed as soon as possible before curing by means which will not damage the applied surface.
- B. Remove all excess materials and waste from the site.
- C. Clean the sign face of all panel signs within manufacturer's instructions.

END OF SECTION 10 14 23

SECTION 11 12 00 - PARKING CONTROL EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. General:
 - 1. Furnish and install the Parking Access and Revenue Control System (PARCS) equipment as specified herein and noted on the architectural drawings.
- B. Equipment Includes:
 - 1. Facility Management System consisting of Data Central Computer Server, fiber optic / Cat 6 cable network, Managed switches, and Parking control software.
 - 2. Access control System consisting of a combination of License plate readers (LPR), Automatic Vehicle Identification readers, QR coder readers, and keycard readers.
 - 3. Revenue Control Equipment consisting of ticket dispensers, ticket acceptors, Pay on Foot machines, barrier gates, loop detector assemblies.
 - 4. License Plate recognition cameras specifically selected and proven with Revenue control systems.
 - 5. Supplies consisting of self park tickets, AVI Tags, and or keycards.
 - 6. Spares consisting of barrier beams (replacement gate arms)

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturer must be SKIDATA, no substitutes accepted SKIDATA.

2.2 EQUIPMENT

- A. The following equipment list consists of basic system components. Provide auxiliary items required for the proper functioning of the system, whether mentioned or not, including but not limited to: heaters, cooling fans, control wiring, transformers, relays, pedestals, etc. to provide a complete operating system. Locate equipment as shown on the drawings and /or as recommended by equipment supplier.
 - 1. All lane equipment shall be (UL) approved with current UL sticker visible on each device. CES only approved devices will be acceptable after the installation company completes a UL Field certification and provides documentation.
 - 2. Manufacturers quality assurance program must be in compliance with ISO 9001, ISO 27001, ISO 27017 and ISO27018 standards. ISO 27017 mainly focuses on the relationship between customers and cloud providers. It outlines the expectations customers can have from their provider and the information providers must maintain for their customers. ISO 27018, on the other hand, relates to data protection and data privacy requirements. The standard serves as a guideline for implementing measures to protect Personally Identifiable Information (PII).

- B. Parking Software Management System
 - 1. Facility Management Software System includes additional Software Licenses that include: Revenue Control, Access Control and Management Report Generation.
 - 2. The system will include Remote Access from workstations which are true clients on the networked system allowing all functions available from the Facility Management Software System.
 - 3. Parking Management requires and On site Server with internet connection to provide Cloud based, Remote access for registered parking management users.
- C. Performance Specifications
 - 1. Primary components of the parking and revenue control system: Shall be microprocessor based and provide for on-line communications to the parking offices. All field programmable functions of the system shall be programmable from the Data Central Computer, Manual Pay Stations (fee computers) and Remote Workstations (password access protection required).
- D. Ticket Dispenser / Entry Lane Device / Exit Lane Device / Transfer Device (Parking Column)
 - 1. Reference. Ticket Dispenser / Entry Lane Device / Exit Lane Device / Transfer Device (Parking Column)
 - 2. Purpose. The Ticket Dispenser / Entry Lane Device / Exit Lane Device / Transfer Device shall be a multi-functional unit known as a Parking Column. The Parking Column shall consist of a base unit that is software and hardware configurable as to it's functionality depending on the location within the PARCS network and parking facility. The Parking Column shall operate as a networked on-line unit. The Parking Column shall also have the ability to be a communication point for attached credential terminals. The Parking Column shall be made up of components that are shared amongst the different configurations.
 - 3. As a Ticket Dispenser / Entry Lane Device, the unit shall issue machine readable parking tickets and print the entry information on the ticket. It shall also accommodate different credentials used for access to the parking facility, including but limited to: barcodes on tickets, printed on various media, and smart phone screens; RFID tickets and cards in industry standard formats as well as proprietary formats; third party credential readers; license plates. The unit shall accept payment when needed. Mag stripe tickets are not acceptable.
 - 4. As an Exit Lane Device, the unit shall read the credential presented, and as communicated from the server or its emergency database, determine acceptability of the credential. The unit shall display any fees needed and collect payment.
 - 5. As a Transfer Device the unit shall operate as a credential reader when a vehicle is transferring from one secure parking area to another. The unit shall record the transaction which will charge any fees necessary.
 - 6. Required Features/Functions.
 - a. Vandal Resistant Aluminum (non corrosive) Finish (no painted surfaces)
 - b. Printed circuit board with microprocessor control.
 - c. P2PE Point-to-point encrypted communication
 - d. Automatic, semi-automatic, manual, and remote controlled ticket issuance. Ability to remotely issue standard tickets, several varieties of special tickets, validations. Ticket and validation issuance parameters can be scheduled.
 - e. Credential control:
 - 1) Encodes/reads barcodes and QR codes per ISO format

- 2) Reads barcodes with standard or optional scanners
- 3) Option to read barcodes that are printed or from smartphones
- 4) Integrated RFID reader for proprietary and standard RFID formats.
- 5) Option to use BLE communication.
- 6) Option to connect third party readers and other credential terminals.
- 7) Can be used in a license plate recognition system.
- 8) Can be used in a pay on entry mode for special events
- f. Built-in intercom hardware for integrated intercom with option for software-based intercom. Analog, digital, or bidirectional video/audio communication
- g. Audible indicator available for gate movement.
- h. High resolution 3-vector color graphic display with user defined bitmaps as well as videos with adjustable sound and automatic brightness adjustment. Display can be used for visual user instructions. Option for programmable touch screen functionality.
- i. Automatic Backout and Void Ticket Control:
 - 1) Backout:
 - a) If a patron backs out of the entrance lane taking the issued ticket, the ticket dispenser shall then signal the gate to close after a programmed time period once the car has moved off the ticket dispenser's arming loop.
 - b) Invalid ticket data shall be recorded in the Software host computer to prevent illegal use of the ticket.
 - 2) Void: If a patron backs out of the entrance lane without taking the issued ticket, the ticket shall be automatically vaulted back into the ticket dispenser and voided both with a printed mark and/or on the magnetic stripe.
- j. Internal Memory Module will store the following data:
 - 1) Transaction data: standard buffer capacity of at least 5000 transactions or error messages.
- k. Vault Box
 - 1) The Parking Column shall collect up to 150 vaulted tickets
 - 2) The device shall vault up to 3000 used tickets in an exit lane configuration
- l. Construction:
 - 1) Heavy duty aluminum construction
 - 2) Heavy duty color impregnated resin.
 - 3) Custom colors available
 - 4) Optional light strip for custom branding.
 - 5) Optional advertising panel and info (rate) panel available
 - 6) Optional top-mounted lane control red/green light available
 - 7) Optional pinhole camera for bidirectional video
 - 8) Installation space for add-on modules
 - 9) AFILS acoustic support for ADA hearing aid assistance.
 - 10) Several optional heights of bases available
- m. Ticket box: up to 2 cartons of up to 7,000 tickets per carton.
- n. Printed Ticket Data:
 - 1) Machine (lane) number (01 - 20) (programmable option)
 - 2) Applicable rate
 - 3) Ticket issue number

- 4) Year (2 digits), month (01-12), date (01-31), and time in military format (01-24) of issuance
 - 5) Sequential Ticket Number per device or system wide.
 - 6) Invalid mark for voided tickets
 - 7) Additional options available.
 - o. Encoded Ticket Data:
 - 1) Lot number (01 - 99)
 - 2) Machine number (01 - 250)
 - 3) Applicable rate key
 - 4) Ticket issue number
 - 5) Month (01-12), date (01-31), hour (00-23) and minute (00-59) of issuance
 - p. Electrical:
 - 1) Power Source: 100 - 240V AC, 50/60Hz,
 - 2) Power consumption: maximum 4 amps
 - q. Ticket/Card Types Supported
 - 1) Short-term Parking Ticket (transient)
 - 2) Special Tickets (several different tickets for Special Events)
 - 3) Credit Cards. Multiple payment processors available.
 - 4) Cash Debit Cards
 - 5) Long-term Parking Tickets (Hotel Guest Applications)
 - 6) ISO-Magnetic Stripe Cards (Frequent Parker-Reward Program Cards)
 - 7) Convention/Event Tickets
 - 8) Utilization based tickets/cards
 - 9) Timeframe based tickets/cards
- E. Parking Gate
 - 1. Reference. Parking Gate
 - 2. Purpose. One way pay direction traffic with gate opening initiated by removal of a ticket from the ticket dispenser, presentation of proximity card or other credential to the appropriate reader. The gate shall be closed, by a vehicle detector signaling the departure of a vehicle. The gate can also be used in two-direction and reversible lanes.
 - 3. Required Features/Functions. The gate control circuitry shall be contained on a printed circuit board that shall be housed in a modular control box. The gate operational modes and features shall be programmable from the central server.
 - a. Auto Stop:
 - 1) The gate arm shall immediately stop its downward travel if the gate closing loop detector senses the presence of a vehicle and will resume its downward travel after the vehicle leaves the closing loop.
 - b. Communication:
 - 1) The gate shall have the ability to communicate status and error messages
 - c. Gate Cabinet:
 - 1) Heavy-duty, aluminum construction.
 - 2) High impact vinyl, fiberglass or plastic cover
 - 3) Optional LED traffic direction indicator (red X/green arrow)
 - 4) Optional gate arm movement strobe
 - 5) Audible motion alarm available.
 - 6) Optional pin-hole camera

- 7) Optional light stripe for higher visibility.
 - d. Service Access:
 - 1) Removable cover for access to drive mechanism and electrical connections.
 - e. Motor Characteristics:
 - 1) 1.5 Second opening time with standard length gate arm. (0 degree to 90 degree)
 - 2) Instant reversing motor
 - 3) Direct drive motor / gear reducer assembly.
 - 4) Internal thermal/overload circuit breaker protection with manual reset
 - 5) 7-year Maintenance Free Drive Assembly under standard conditions.
 - 6) All motor, relay and solenoid power shall be provided with fused protection
 - 7) Shall not utilize belts or pulleys in the drive assembly.
 - f. Electrical: 100 - 240 vac @ 2 – 5 amps
 - g. Control Panel:
 - 1) Plug-in installation
 - 2) ON/OFF main power and logic circuit breakers
 - h. Gate Arm:
 - 1) Sturdy Fiberglass Design (multiple lengths available up to 14.75 foot)
 - 2) Folding gate arms to be provided without exposed hardware to cause the arm to fold on low overhead applications
 - 3) ADA compliant folding arm available
 - 4) Internal LED illumination for both standard and folding arms available. Illumination option shall provide for red/yellow/green color change to indicate gate state (closed/opening/open). Illumination color programmable.
 - 5) Gate arm breakage detector.
 - 6) Gate arm shall be designed in such a way to break free when impact occurs, protecting vehicles and gate internal components from damage.
- F. Manual Pay Station (fee computer) & Validator
 - 1. Reference. Fee Computer & Validator
 - 2. Purpose. The Fee Computer is a minimum Celeron 1.86 GHz (2 cores) based system that runs in a Windows 10 environment. The Fee Computer automatically calculates parking fees when combined with the validator and ticket dispenser. The Fee Computer will connect to a minimum 15" flat screen monitor and keyboard. The Validator contains a compact thermal printer for receipt printing as well as ticket/card printing. The single throat transport unit accepts barcode and magnetic stripe cards and tickets.
 - 3. Required Features/Functions.
 - a. Modular Design
 - 1) Uses high speed micro processor.
 - 2) Minimum 15" Flat screen LCD Color Monitor.
 - 3) Single Cash Drawer
 - 4) Interfaces with the Remote Fee Indicator
 - 5) Interfaces with the Validator for automatic fee calculation
 - 6) Built-in magnetic reader
 - 7) Built-in RFID reader

- 8) Journal is kept on the hard-drive and can be printed upon request
 - 9) Validator shall incorporate single slot technology. All tickets, cards, and validation coupons shall be presented and read in the same slot
 - 10) Validator shall accommodate 2 blank ticket/receipt feeds.
 - 11) Validator shall be secured with a lock and key.
 - 12) Validator shall be serviceable for ticket jams without the need for tools.
 - 13) Manual Cashiering function in case of validator off-line.
 - 14) PC Real-time clock with 7 year internal clock retention
 - 15) The fee computer configuration for this facility requires a complete computer network. This network will enable the University or its agent to use any fee computer as an administrative point on this system.
- b. Custom Rate Structures and Discounts
- 1) Rates shall be fully programmable from the Data Central Computer or any Manual Pay Station and/or Workstation.
 - 2) Day/Night (time-of-day based)
 - 3) Weekend (day-of-week based)
 - 4) Special Event/Variable/Flat rate
 - 5) Daily/Weekly maximum
 - 6) 99 rates per up to 99 car parks
 - 7) Unlimited number of sub-rates per rate
 - 8) Unlimited number of patterns per sub-rate
 - 9) Programmable Grace time and Complimentary period
 - 10) Four different tax rates (assignment to each rate) with independent calculation rules, including: reverse calculation method, compound or separated tax calculation, tax applied before or after discounts
 - 11) Supports 9999 different Store Coupon ID's for discount
 - 12) Payment Types
 - a) Cash
 - b) Check
 - c) Credit card
 - d) Service card
 - e) Store coupons
 - f) Validation Coupon
 - g) Cash Debit Cards
 - 13) Notes:
 - a) Support multiple forms of payment in one transaction.
 - b) Allows multiple store coupons to be applied to one
 - c) transaction.
 - d) Supports partial payment or 100% short money transactions.
 - e) Supports relief shifts and dual cash drawers
 - f) Validated to latest PCI/PA-DASS specifications
 - 14) Configurable Operations Include:
 - a) Cashier Sign-On/Sign-Off, protected by password
 - b) Cashier rights are assignable per cashier
 - c) Unlimited number of cashier ID's can be programmed
 - d) Full standard PC keyboard and mouse can be used for configuring operations
 - e) User defined key assignment on the keyboard as well as on-screen. Touch screen compatible.
 - f) Central pay, exit pay or pre-pay configurable

- g) Configurable receipt header and trailer including the use of bitmaps
 - 15) Reports
 - a) Cashier Shift Report
 - b) System Journal Report
 - c) System Events Report
 - d) Transactional and revenue reports can be filtered by Cashier
 - 16) Ability to mass produce validation coupons, event tickets using the Validator
- G. Remote Fee Indicator
 - 1. Reference. Remote Fee Indicator
 - 2. Purpose. Used in conjunction with the fee computer, the Remote Fee Indicator is designed with an LCD readout to display to a parking patron their parking fees, change due, and the current time.
 - 3. Required Features/Functions.
 - a. The fee indicator shall illuminate the parking fee in an easy-to-read high intensity LCD.
 - b. When connected to the Fee Computer via a network serial port, the fee indicator shall be capable of displaying the current time of day, parking fee, and change due to the patron.
 - c. A separate time, fee, and change light on the fee indicator shall indicate what is being displayed.
 - d. The fee indicator shall display to the patron the amount of money charged by the cashier. When combined with the fee computer, the fee indicator shall give maximum protection against overcharging and assure the motorist that the fee charged was recorded.
 - e. Power Source: 120 VAC, 50/60Hz
 - f. Alarm sent to the Data Central Computer when the Fee Indicator is not communicating with the Manual Pay Station (fee computer) indication potential cashier misuse/abuse
- H. Automatic Pay Station – Pay on Foot
 - 1. Reference. Automatic Pay Station – Pay on Foot
 - 2. Purpose. Parking patron drives up to the ticket dispenser / entry lane device, takes a ticket or uses another credential to enter the parking facility, parks their vehicle and keeps the ticket/credential with them as they exit the parking area. Before retrieving the car, the patron approaches the Automatic Pay Station – Pay on Foot and presents the credential and any validations/store coupons. The pay station automatically calculates the patron's parking fee, accepts payments in the form of cash, credit or debit card, tenders any change due (if applicable), issues a receipt upon request, and validates the parking ticket. The patron then retrieves their car to exit the facility. The automatic pay station is used in conjunction with the Exit Ticket Reader located at the facility exit. The patron presents the validated ticket/credential to the Exit Ticket Reader and if the ticket is valid, sends a signal to open the parking gate.
 - 3. Required Features/Functions.
 - a. The Automatic Pay Station shall be available in multiple types:
 - 1) Ticket/Card insertion; Cash/Coin Handling ('Smart')
 - 2) Ticket/Card insertion; no Cash/Coin handling ('Lite')

- 3) No Ticket/Card insertion, no Cash/Coin handling ('Slim')
- b. Transient parking tickets:
 - 1) Individual rates for normal, special events and lost tickets.
 - 2) Variable and flat rates.
 - 3) Discount Tickets
 - 4) Used with transient parking tickets
 - 5) Up to 9999 stores
 - 6) Fixed money amount, time adjustment to entry or exit time, percent off gross fee and change rate, discounts (type and amount of discount is programmed at administration unit)
 - 7) Expiration date to void outdated discount tickets
- c. Store validated transient tickets:
 - 1) Store number automatically encoded on validation coupons with Bulk Validation System.
 - 2) Pay station reads store number on ticket and automatically applies discount to the parking fee
 - 3) Discount types are fee amount, time, percent, rate change and surcharge, flat fee.
- d. Service card
- e. Staff Card used for Programming, Inventory and Report Generation
- f. Coder Mechanism for Ticket/Card insertion type machines (Smart & Lite):
 - 1) Read/write all tickets and cards
 - 2) Reads ticket entrance data
 - 3) Re-encodes transaction data: month, date, and time of validation
 - 4) Reads magnetic stripe cards
 - 5) Vaults service cards, discount tickets
 - 6) Issues Receipts
 - 7) Issues barcode, magstripe and RFID products
- g. Coin Acceptor for Coin/Cash handling type (Smart):
 - 1) Accepts up to 16 different coin denominations
 - 2) Can sort coins to up to five individual hoppers (predefined amounts) for future change
 - 3) Can hold given coins for return if transaction is cancelled
 - 4) Coin Inventory Status Report
- h. Hoppers (Smart):
 - 1) Version with four refilling hoppers with 250 coin capacity plus one hopper 1200 coin capacity available
 - 2) Version with three refilling hoppers with 1200 coin capacity available
 - 3) Two additional coin cassettes with capacity of 1200 coins each available
 - 4) User defined coin amounts
 - 5) Inventory reports available
- i. Note Acceptor/recyclers (Smart):
 - 1) Programmable choice to accept any or all of the following: \$1, \$5, \$10, \$20, \$50 and \$100 bills
 - 2) Reads note in four directions
 - 3) Notes store in bill stacker (capacity 1000 notes) for acceptor option
 - 4) Several bill recycler options available includes at least 2 refilling cassettes for up to 100 banknotes each plus one stacker cassette for up to 600 banknotes.

- 5) Escrow option available
- j. Two key operation:
 - 1) One key to remove vaults from pay station
 - 2) One key to open vault
 - 3) Separate keys to open coin unit or note stacker
- k. Partial and Full warning for empty/full for coin safe, hoppers, bill safe and bill dispenser
- l. Warning and error messages logged
- m. Transaction history logged
- n. Receipt / Ticket Printer:
 - 1) The pay station is equipped with a thermal receipt printer
 - 2) Printer also used for ticket printing
- o. Display Panel:
 - 1) Display: Color flat panel 3-vector 10.4 (1024 x 768 pix) monitor displays graphical instructions with touch screen functionality (standard on Smart & Lite). (24" standard on Slim)
 - 2) Optional large monitors available, depending on machine type (21" 1080 x 1920 px for Smart); (18.5" 1920 x 1080 px Lite);
 - 3) Illuminated LED backlight control elements
 - 4) Displays are ADA adjustable at touch of icon
 - 5) Custom graphics and videos with sound can be displayed and triggered by motion sensor
 - 6) Visual and audible instruction available
- p. Journal Logging:
 - 1) Journal logging is written to a hard disk which can be copied to a floppy on a text file format
 - 2) Journal logging is filterable and available on demand
- q. Cancellation of a Transaction:
 - 1) A transaction may be cancelled at any time prior to completed payment of the parking fee (credit card authorization process if applicable)
 - 2) Amount tendered is refunded in coins and notes and any applied discounts are entered in escrow on the patron's parking ticket
 - 3) Once full parking fee payment is completed, transaction cancellation cannot be performed and refunds shall not be available
 - 4) Validation Coupons accepted for discounts prior to canceling transaction are applied as credits to the short term parking ticket
- r. The Automatic Pay Station operates on-line with the system software using P2PE Point-to-point encrypted communication
- s. Data sent from the pay station to the parking system software
 - 1) Individual transaction data
 - 2) Alarm and event messages
- t. Data sent from the parking system software to the pay station:
 - 1) Update program data and time synchronization
 - 2) Back out ticket data
 - 3) In/out service
- u. Payment System:
 - 1) Reads all major credit cards (consult financial processor for availability)
 - 2) Batch mode processing
 - 3) Real-time Credit Card Authorization

- 4) Customer is required to select merchant account with a bank that can provide credit card processing.
 - 5) Multiple payment processors available
 - 6) ApplePay, Google, etc. can be accepted.
 - v. Housing:
 - 1) Construction: Stainless steel housing
 - 2) Baked enamel finish on exterior cabinet
 - 3) Pin-hole camera for bidirectional video
 - 4) Advertising panels available
 - w. Electrical:
 - 1) Power source: 120V AC, 60HZ
 - 2) Power consumption: Average 60W, maximum 1100W
 - x. Lost Ticket:
 - 1) The Pay Station shall be capable of issuing a replacement ticket to a transient patron that has lost their ticket.
 - y. Remote Control:
 - 1) The Pay Station must be capable of issuing Lost tickets via remote control.
 - 2) The Pay Station must be capable of being controlled remotely for transaction assistance to patrons
 - z. Barcode scanning: The Pay Station must be capable of reading barcodes from standard tickets, print at home tickets, and smartphones.
 - aa. Keycard reading/Encoding
 - 1) The Pay Station must be able to read and display the current balance for cash debit cards
 - 2) The Pay Station must be able to re-charge value to cash debit cards
 - 3) The Pay Station must be able to read RFID ISO-15693 and ISO-1443
 - 4) The Pay Station must be able to read BLE technology
- I. Vehicle Detector
 - 1. Reference. Vehicle Detector
 - 2. Purpose. Vehicle Detectors shall be installed and used in conjunction with the parking gates, ticket dispensers, and fee computers. The installation of the vehicle detector shall include an inductance loop embedded in the pavement of the traffic lane. This loop and detector combination shall detect the presence of a vehicle as it passes over the loop. The vehicle presence signal can then be used to arm the parking equipment for use, to signal the operation of the equipment (ticket issuance, gate arm opening or closure), and used for facility count and monitoring purposes.
 - 3. Required Features/Functions.
 - A. Compact plug-in design
 - b. Selectable permanent presence
 - c. Loop isolation protection
 - d. Loop frequency selection
 - e. Automatic sensitivity boost
 - f. Detection filter guards against small or fast-moving objects
 - g. Selectable directional logic
- J. Card Readers
 - 1. Reference. Proximity Display Reader

2. Purpose. The Readers are used to allow and deny access to various user types. The readers are proximity technology display readers with built-in intercoms. In addition to checking card status of various user types, the readers are interactive with the database to communicate visual messages via two line display that are personal, global, by time, and card status. Refer to software for complete messages that must be available. These messages allow management to make real-time decisions regarding user status.
3. Required Features/Functions.
 - a. Micro-controller driven technology
 - b. Shares a display with ticket issuing machine
 - c. Automatic switches to standalone mode if online communications are interrupted
 - d. Transactions buffering for up to 5000 transactions
 - e. Built-in diagnostics to test reader performance
 - f. Easy to read 2-line, 40 character backlight LCD display at a minimum
 - g. Remote control of gates and auxiliary relay from central software
 - h. Readers support both debit cards and contract cards with same reader
 - i. Hard or soft, true or timed anti-passback
 - j. Card technology maintains full anti-passback functionality while system is offline.
 - k. Displays programmable real-time messages from software; cardholder name, card number, transaction fee, remaining value (debit user), custom one-time message, status messages (card expired, etc.), time and date. This is a sample list of messages.
 - l. The proximity card reader shall be an integral component of the ticket issuing machine.
 - m. When used for door access, the keypad can be used to input a Door Code printed on the ticket for transient access to stairwells after hours.
 - n. Revenue Control Package:

2.3 SETTINGS Module

- A. This software module adds several features to the functions of Parking System. Features include blocking data program as well as editable authorizations for individual authorization categories.
- B. Activation threshold levels for heater and ventilator
- C. Lane Equipment Program
 1. Additional language for display of messages on the lane equipment in two languages
 2. Definable face text to be printed on Short-Term Parking Tickets (e.g., adverts, advisory information, etc.)
 3. Ticket processing at exit points (retain, return or offer)
 4. Allow/block exit of Short-Term Parking Tickets, Cash Debit Cards, Credit
 5. Cards and Parking Credit Cards with zero rate
 6. Use of Debit Cards (allow/disallow payment of debit card[s] at exit points)
 7. Validation configuration (accept/reject validations)
- D. PAY STATIONS Program

1. Number of invoices, broken down by means of payment
 2. Management of check clearance fees
 3. Definition of max. credit card spending amount
 4. Definition of min. amount of receipt for issuance
 5. Exit point payment: exit barrier will only open after till had been closed
 6. Flexible keyboard definition for extended keyboard (Control Console or keyboard dialogue)
 7. Definition of up to 5 manual payment methods (i.e., 'Payment with coupon'), applicable to pay the whole (remaining) amount
- E. Extensions to AUTOMATIC PAYMENT MACHINES Program
1. Settings for all APMs of a single Car Park or the whole Facility
 2. "Closed" Message – Customizable 'Out of Order' message
 3. Customer specific screen saver
 4. Sale of Long-term Parking Ticket and Lost Ticket
- F. AUTHORIZATIONS Program
1. Assigning of programs and functions to authorization categories, based on own authorization
 2. 7 basic authorization categories, definition of up to 90 further authorization categories
 3. Summary of programs and functions available on individual system devices
 4. Data filter option
- G. BLOCKING DATA Program
1. Blocking of non-personalized parking tickets, e.g. Long-Term Tickets or Cash Debit Cards of a particular batch or single tickets based on the shared invoice number
 2. Creating, editing, deleting and printing of blockable data
 3. Invoice number, Date of invoice, Parking facility
 4. Ticket number range, Definition of blocking activation date
 5. When a blocking entry is created, the program will record the identity of the operator; in case of transaction cancellations, the program will log the Device ID No. of the Pay Station in question.
- 2.4 MONEY Module
- A. This software module extends the basic functionality of the Parking System by several report generation and evaluation features that allow for the use of City Cards and validations while ensuring exact customer account settlement. In addition, the module enhances the flexibility if the report compilation routines.
- 2.5 Extensions to REPORTS Program
- A. Report Compilation
1. Customizable compilation of reports by means of the following add-on features:
 2. Net Turnover Report
 3. Theoretical Turnover
 4. Cashier Reports (Total Turnover, Net Turnover, Sales, Means of
 5. Payment, Validation Providers)
 6. Car Park Reports (Total Turnover, Net Turnover, System Totals)

7. Parking Duration)
 8. Payment Device Reports (Total Turnover, Net Turnover, Sales, Means of Payment, Validation Providers, System Totals)
- B. Data Filters
1. Customizable compilation of
 - a. Filtered Reports for definable report periods
 - b. Daily/Monthly Interim Reports
 - c. Reports covering specific car parks, payment devices and system operators
- C. Cash Flow
1. Evaluation of current cash balance data
 2. Statistical evaluation of in- and out payments (emptying of Main Cash Containers, Hoppers and Dispenser)
 3. Statistical evaluation of foreign currency balance at Pay Stations and Automatic Payment Machines (Main Coin/Banknote Containers)
 4. Various configurable data filters
 5. Printing of displayed information
- D. Validations
1. Evaluation of validated and surcharged amounts, broken down by validation provider
- E. Shift Reports
1. Evaluation of cash-in hand balance data, broken down by shift
 2. Evaluation of in- and out payments (emptying of Main Cash Containers, Hoppers and Dispenser)
 3. Statistical valuation of foreign currency balance at Pay Stations and Automatic Payment Machines (Main Coin/Banknote Containers)
 4. Configurable data filters
 5. Printing of displayed information
- F. Device Equipment / Accessories
1. Validation Barcode Scanner is typically for retail establishments and can be either customer self serve or employee operated.
 2. On Line Validation is typically for office establishments where office staff type in the ticket number and apply validation based on hours of use.
 3. Validation APP allows employees to scan a ticket and apply validation hours.
- 2.6 RATE MANAGEMENT Module
- A. This software module enhances the basic functionality of the Parking System by several tariff management features. The Rate Management supports the definition of up to 99 rates for top-up payment and debit card rate re-calculation. In addition, the Rate Management module allows for the definition of special flat rates.
- B. Features Added to RATE MANAGEMENT Program
1. Setting up, editing and deleting of up to 99 different tariffs for an entire facility
 2. Individual tariffs can be allocated to different articles (e.g., Time Debit Cards, Discount Tickets, credit cards, etc). When a payment card is inserted (if required, after the parking ticket), the parking fee is re-calculated in accordance with the

applicable tariff. A tariff specifies the rate periods, rate time windows, rate tables, maximum fees and flat rates allocated to the individual car parks.

3. Open-End Tariff – the last tariff row continues
4. Flat Rate Options
 - a. Applicable daily or weekly
 - b. Applicable on several consecutive days
 - c. Entrance required within or before specified time window or always possible
 - d. Payment/exit required within or after specified time window or always possible
5. Flat Rate Payment Options
 - a. Pay Device(s): Pay Stations and/or Automatic Payment Machines
 - b. Activation method: automatic or via request button
 - c. Rate period

- C. Features added to ARTICLE and CREDIT CARD SETTINGS Programs
 1. Allocation of special tariffs to specific articles or credit cards

2.7 ONLINE DATABASE ACCESS

- A. This software add-on module provides direct access to the database of the Parking System. For this purpose, certain database tables are released that correspond to the database tables of Customizable Reports (separate software module).
- B. Features
 1. Network access to system SQL server via SQL queries
 2. Instant retrieval of current data
 3. Configurable security password for on-line database prevents unauthorized data access
 4. The customer is free to choose the query software to be used (e.g. SQL Server Query Analyzer, MS Access, Excel, etc.)
 5. Data can be easily be imported into existing customer specific applications (e.g., in order to prepare customer specific reports)
 6. Database tables are the same as those used for Customizable Reports
- C. Extensions to Parking Facility program
 1. Password for on-line database access
- D. Device features and add-on devices
 1. Ethernet-based connection with APT 450

2.8 DATA INTERFACE Module

- A. This software module enhances the basic functionality of the Parking System by adding two utility programs, data Export and Host Communication.
- B. Data Interface
 1. This utility provides system specific data (e.g. payment details, entry/exit statistics, etc) in a platform independent format for evaluation by way of third-party systems. It is also used for importing data into the parking system database.

C. Exportable Data Items

1. Depending on the availability on unlocked software modules, the following data can be exported:
 - a. Parking transactions (entry/exit movements), Entries
 - b. Parking transactions of Contract Parker Cards and Credit Cards
 - c. Payments, Sales Payment transactions
 - d. Payment transactions broken down by method of payment (cash, check, invoice, credit card)
 - e. Payment transactions broken down by method of payment (value cards, validations, token)
 - f. Payments with electronic purse
 - g. Payments with Customer Cards/IOS Discount Tickets
 - h. Additional turnover (e.g., handling fees, amount rounding differences, etc)
 - i. Daily and Monthly Reports, Cash Flow
 - j. Cash filling levels of Automatic Payment Machines and Pay Stations
 - k. System Events
 - l. User details (export of full records or, optionally, of edited items only)
 - m. Contract Parker delayed payments (sum total per customer)
 - n. Ticket return details
 - o. Card utilizations
 - p. Events
 - q. Card Batches
 - r. Staff details (export of full records or, optionally, of edited items only)
 - s. Settings – Facilities (Main Admin. Units), Car Parks, System devices, Articles, Validation Providers

D. Importable Data Items

1. New/edited customer, user and ticket details; ticket blocking data
2. Credit card reservations

E. Functions

1. Ethernet based file access via FTP function of TCP/IP protocol or directly with the file copy function of the operating system
2. Data export and import via floppy disc
3. Platform independent file format (ASCII)
4. Automatic data export/import via Day Closure procedure (files are deleted automatically after 14 days)
5. Manual launching of data export/import routine
6. File administration by way of host device

F. Host Communication

1. This program supports real-time TCP/IP-based data transfer between the Parking system and a primary host. This host can transmit commands to Parking System as well as request status information. In case of certain pre-specified events, the Parking System automatically transmits relevant information back to the host.

G. Host Commands / Messages (Host -> Parking System)

1. Remote control commands (all control commands of the Control Centre program, i.e., raising/lowering of barriers, Lost ticket, etc)

2. Requesting status, shift and level information
3. Requesting counters and counting domains
4. Set counting category mode and level
5. Set occupancy and counting domain mode details
6. Request presence of Contract Parking Cards or credit cards
7. Deleting credit cards or Contract Parking Cards from Presence List
8. Block or unblock Contract Parking Card
9. Activation of transaction control ('Anti-pass-back function') of one Contract
10. Parking Card for one transaction
11. Permanent deactivation of transaction control of one Contract parking Card
12. Set Contract Parking Card to defective or lost
13. Create, change or delete Contract Parking Card
14. Importing or requesting customer/user data
15. Activate/deactivate Remote Event Messaging

H. Parking System Messages (Parking System -> Host)

1. Status information
2. Shift details
3. Filling levels of Automatic Payment Machines
4. System events
5. Reasons for card rejections
6. Occupancy counter
7. Counting domains
8. Presence of single Contract parker and Credit Cards

I. Functions

1. Online messaging between the Parking System (i.e. client) and host computer (i.e. server)
2. Communication is fully networked
3. Data transfer protocol: TCP/IP
4. Host connection is established through the Parking System software
5. Connection is switched to backup host in case of host computer breakdown
6. Host computer can transmit demands to the Parking System and request status information; in case of certain events, the Parking System sends status information automatically
7. Messages consist of header and contents section

2.9 DATA INTERFACE Module

- A. This software module enhances the basic functionality of the Parking System by several ticket product features and Article functions.

B. Extensions to ARTICLES Program

1. Definition of new Articles
 - a. Lets you add up to 500 new Articles based on existing definitions
2. Adjust card imprinting
 - a. Valid for the whole facility
 - b. Available on all ticket types except Short-term Parking Ticket, Lost
 - c. Ticket and Ticket Duplicate
 - d. Definable face text (see Short-Term Parking Ticket)

- e. Imprint can be switched on/off for each article (facility, article designation, user name, user number, validity, ticket value, customer name, 'Follow-up ticket' note, insert direction arrow, receipt information, parking lot no., door code)
- 3. Depot Ticket
 - a. Depot Ticket function for Long-Term Tickets, Charter/Visitor Cards and Renewable Long-Term Tickets
 - b. Allows for post-dating of tickets intended to become valid at a future date (ticket can be configured for auto-activation upon first use)
- 4. Multiple card payment
 - a. Allows for use of more than one payment card per transaction
- 5. Extended entry permission
 - a. Allows for access to the parking facility even when full
- 6. City Number
 - a. For unique identification of City Cards
- 7. Re-use Waiting Period
 - a. Specifies the time a system-based Discount Ticket will not be accepted (i.e., rejected) after being used
- 8. Utilizations
 - a. Specifies how often Discount Tickets can be used

2.10 ARTICLES Module

- A. This software module enhances the basic functionality of the Parking System by several ticket product features and Article functions.
- B. Extensions to ARTICLES Program
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 - 2. Lets you add up to 500 new Articles based on existing definitions
- C. Adjust card imprinting
 - 1. Valid for the whole facility
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 - 4. Definable face text (see Short-Term Parking Ticket)
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- D. Depot Ticket
 - 1. Depot Ticket function for Long-Term Tickets, Charter/Visitor Cards and Renewable Long-Term Tickets
 - 2. Allows for post-dating of tickets intended to become valid at a future date (ticket can be configured for auto-activation upon first use)
- E. Multiple card payment
 - 1. Allows for use of more than one payment card per transaction
- F. Extended entry permission
 - 1. Allows for access to the parking facility even when full

- G. City Number
 - 1. For unique identification of City Cards
 - H. Re-use Waiting Period
 - 1. Specifies the time a system-based Discount Ticket will not be accepted (i.e., rejected) after being used
 - I. Utilizations
 - 1. Specifies how often Discount Tickets can be used
- 2.11 cloud based reporting solution
- A. This application shall run in a cloud-based internet accessible web portal. Report is a central reporting solution for all car parks across multiple facility servers. Report will consolidate data from singular or several car parks into informative and graphical reports.
 - B. Web interface
 - C. Multi-tenant/multi facility
 - D. Consolidating reporting across platforms systems
 - E. Long term retention of data – up to 7 years
 - F. Flexible Report Parameter Filters
 - G. Drill down to details capability for facility, car park, device, operator.
 - H. Export to common file formats:
 - 1. PDF
 - 2. Microsoft Excel
 - 3. Plain Text
 - 4. RTF
 - 5. XML
 - 6. PostScript
 - 7. DHTML
 - I. Pre-configured reports can be manipulated to change format, data, etc.
 - J. Custom ad-hoc reports can be saved.
 - K. Mobile device friendly responsive design
 - L. Time scheduled reports generation available
 - M. Automatic email delivery of reports on a schedule
 - N. Report Options:
 - 1. Standard Reports:
 - a. Actual Payment Transactions Statistics Report
 - b. Car Park Balance Sheet

- c. Dashboard (3 – 12 month overview)
- d. Fee Group Analysis
- e. Net Revenue Report
- f. Occupancy Statistics
- g. Parking Duration Statistics
- h. Parking Transactions
- i. Passages Statistics
- j. Payment Method Report
- k. Payment Revenue Statistics
- l. Revenue Report
- m. Sales Report
- n. Shift Report
- o. System Events Report
- p. System Totals Reports (lane activity)
- q. Used Tariff Report
- r. Validation Report
- 2. Audit and Finance Reports (add-on module)
 - a. Changelog Report
 - b. Credit Card Revenue Breakdown Report
 - c. Credit Card Summary Report
 - d. ISF (Insufficient Funds) Driver List
 - e. Insufficient Funds Report
 - f. Remote Authorizations Report
 - g. Remote Validations Reports
 - h. Towed Vehicles Audit Report
 - i. Validations, Discounts and Cash Coupons Report
- 3. Operation Reports (add-on module)
 - a. Blocked Tags
 - b. Cashier Performance Report
 - c. Exit Cashiering Report
 - d. External Card Report
 - e. Lane Operations Report
 - f. Parking Transactions of Personalized Parkers Report
 - g. Personalized Parkers Listing
 - h. Revenue by Ticket Type
 - i. Tickets Issued
 - j. Access Cube for access based custom reports
 - k. Sales Cube for sales based custom reports
 - l. My Report folder for saved custom reports

2.12 PlateTech.logic license plate solution

1. Furnish and install Fixed Mounted LPR at all public entry and exit lanes. Throughout this Section, the term “LPR database” refers to a generic database(s) that may be housed entirely or in part on the PARCS central databases or on the LPR Subsystem hardware.
2. The LPR Subsystem consists of all hardware and software necessary to provide a complete and functional LPR subsystem that achieves the required functionality and accuracy, and that does not adversely affect any function of the PARCS.

3. Provide an LPR subsystem that is fully interfaced and integrated into the PARCS, including tying the LPN captured at entry to the unique ticket identification (or other entry credential information) for every transaction. Should the entry information need to be obtained at an exit station to process the transaction (i.e. lost ticket, unreadable, etc.), both the LPN and ticket shall be removed from their respective active inventories once the vehicle has exited.
4. Maintain LPR images and LPN in the database for x # of days at which point the LPR image and LPN is purged from the database while all other data associated with the transaction remains intact.
5. LPR Cameras
 - o Entry and exit images to be pre-capture, meaning that the cameras are placed such that a vehicle's LPN is photographed before the parking credential has been issued or accepted by the entry/exit device.
 - o Preferred method of illumination for license plate capture is 730nm or 850nm infrared light
 - o Provide an operator with the ability to review and correct LPR data and manage LPR exception transactions at the exits.
 - o Cameras should have dual streaming capabilities for routing video into other 3rd party systems
 - o Cameras should be 12 megapixel or higher resolution
 - o LPR processing of images should be at the edge in the lane prior to the LPR data being placed onto the network
 - o Must have capability to read non-reflective license plates
 - o Color overview images of the vehicles should be provided in addition to the IR plate capture image
6. Fixed LPR Subsystem Performance Requirements
 - a. Acquire an image of a vehicle's entire license plate at a 99 percent (99%) rate for all non-exception vehicles as defined within this section. The intent of the 99% capture rate is to have a visual record of 99% of all non-exception license plates entering or exiting the facility.
 - b. Achieve an N Factor rating of 90% meaning specifically that the LPR characters, are read correctly 90 percent (90%) of the time for all non-exception vehicles as defined within this section.
 - c. Missing, misread, or additional characters as determined by the LPR Subsystem shall be counted against the read accuracy. (i.e. if a license plate contains six standard characters.
 - d. "ABC123", then N=6. Therefore, in order for the system to achieve an N read, the system must return the LPN "ABC123" exactly.) Additional characters added before or after the license plate characters shall count against the read rate. (i.e., "1ABC123" would not constitute an N read.)
 - e. Achieve an N-1 Factor rating of 95% meaning specifically that the LPR Subsystem shall read all but one LPN characters, exclusive of stacked characters, correctly 95 percent (95%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem shall be counted against the read accuracy. (i.e. if a license plate contains six standard characters "ABC123", then N=6. Therefore, in order for the system to achieve an N-1 read, the system must return the LPN "BC123", "ABC12", "ACC123", "ABCR23", "ABC1231", etc.) Additional characters added before or after the license plate characters count against the read rate.

- f. Exception vehicles will not count against the accuracy of the LPR Subsystem. For the purposes of the LPR performance requirements an exception vehicle is defined as:
 - i. Any vehicle whose license plate is obstructed, obscured, or encroached upon by a foreign object.
 - ii. Oversized vehicles that have a total distance between the center of the drivers' side window and the end of the rear bumper greater than 15 feet.
 - iii. Vehicles that contain excessive graphics and advertising such that it is impossible for the LPR system to determine which graphics belong to the license plate and which graphics do not.
 - iv. Vehicles with no license plate.
 - v. Vehicles with temporary "Dealer Plates."
 - vi. Motorcycles
 - vii. Ambient lighting conditions shall have no effect accuracy of the LPR system regardless of the time of the day and night. The Contractor to provide any necessary shading or lighting elements required to mitigate the effect of the ambient lighting conditions on the LPR system performance.
 - viii. Provide a means, to remotely score the LPR
- g. Mobile LPR Subsystem
 - i. Include all hardware and software for a fully functioning vehicle-mounted mobile LPR taking and reporting system that is completely and fully reconcilable with the PARCS ticket inventory and the LPR system's active image inventory.
 - ii. Provide an automated, software application to reconcile the LPR inventory and image inventory including reconciliation tools, vehicle lookup tools, and LPR/PARCS reconciliation software.
- o Accommodate the following tasks:
- o Inventory taking – facilitate LPR inventory using vehicular mounted, or handheld devices to record each vehicle's LPN. Record LPR data by facility, floor, aisle and LPN.
- o Inventory upload – upload of the LPR inventory wirelessly, or via a docking station connected to a workstation with appropriate checks and balances in-place to detect possible data entry errors.
- o Reconciliation – Upon successful upload and adjustment of the inventory, reconcile the mobile LPR inventory with the fixed LPR inventory without altering the accuracy of the true number of vehicles parked in a parking facility.
- o Route modification – functionality to add, delete, or modify the inventory routes as well as add or delete entire structures or facilities from the LPR system.
- o Recognize a vehicle that has changed spaces since the last inventory was taken, but that has not exited the facility and reentered.

ADDITIONAL SPECIFICATIONS

1. LPR subsystem should have the capability to provide vehicle state of plate issuance along with vehicle make and color in well lit conditions for additional vehicle identification capabilities
2. LPR subsystem should have the capability to operate with virtual loops in any area where a physical in ground loop is prohibited or not preferred
3. LPR subsystem should have the capability to read up to two lanes of traffic at same time from one set of cameras where applicable

- A. This software solution shall run as a locally hosted solution. The software shall allow for control and operation of multiple parking facilities with the PlateTechCentral application. The software shall have the ability to run on the PARCS server for small to mid-size sites. The software shall enhance the PARCS software with license plate recognition (LPR) functionality. The software shall allow the use of customers' license plates to grant direct access into the PARCS in both ticketed and ticketless modes. The software shall utilize tools to handle and prevent exception transactions, search for transactions and the corresponding images, setting the correct price for a lost ticket based on a vehicle's plate number at entry. The software shall come equipped with comprehensive reporting.
- B. Features of the software shall include:
1. All relevant data regarding entry, exit, plate numbers and corresponding images shall be recorded and linked with the PARCS data.
 2. Monitors and controls the LPR camera infrastructure. When using SKIDATA's Plate.Gate line of cameras, the LPR software shall update the camera's OCR and Operating system firmware and change camera settings directly.
 3. Enables exception handling for corrections whereas the license plate number is automatically forwarded to a staff member for manual review and/or correction if it is deemed outside the defined reading parameters.
 4. Enables exception handling for rejections whereas a certain ticket is used with a certain license plate number at the entrance, then a different ticket is used at the exit with the license plate number. The rejection shall be automatically forwarded to a staff member for review/acceptance/denial.
 5. Allows for a search of transactions/vehicles/images based on various criteria such as license plate number, lane, date/time, etc.
 6. Software access is based on login credentials and user rights of the PARCS (Single sign-on)
- C. When run in conjunction with the PARCS, the LPR system areas of application include:
1. Print and Check – a registered and printed license plate number on the ticket is clearly assigned to a specific vehicle to prevent ticket swapping and other fraud. Lost or unreadable tickets can be invalidated and replaced on demand allowing for the accurate parking duration to be charged to the customer.
 2. Contract Parkers – the license plate shall solely be used as an access credential for long term, contracted parkers.
 3. Convenient exit – the customer shall have the option to pay for the parking ticket at a central pay station or kiosk. Once the parker drives to the exit, the gate shall vend without the customer presenting the paid ticket to the exit device.
 4. Ticketless – the LPR software shall have the ability to allow access/egress to the parking facility without the customer handling tickets. Whether the customer's license plate is registered in the LPR system or not, the license plate is used as a credential in the PARCS.
- D. The LPR software shall include the following options:
1. Multiple PARCS can be connected to PlateTechCentral software. Discrepancy handling of rejections and corrections shall be available across multiple PARCS/PlateTechs from one central location.
 2. Watchlists and blacklists can be set up to send notifications when certain license plate numbers appear at a carpark. These vehicles can then be blocked from entering or exiting the parking facility.

3. A PlateRates function shall assign special rates and access to registered plate numbers.
4. LPR related activity reports shall include:
 - a. Change Log
 - b. Correction Notifications
 - c. LPR Confidence Levels
 - d. LPR Inconsistencies
 - e. Parking Transactions
 - f. Rejections Notifications
 - g. Watch List Notifications
 - h. Watch Lists
5. The LPR software shall optionally include an Insight feature that can be used to view on overview dashboard, analyze lane performance through optical recognition performance at defined time intervals and certain lanes and a Scoring Tool to calculate LPR read rates.
6. Audible configurable alarms are available four notification types – corrections, rejections, watchlists and CDLP (card or ticket via license plate, used in the case of a lost credential).
7. Data Anonymization can be used to meet GDPR (General Data Protection Regulation) specifications.
8. The software can be configured to run in Active and Passive Mode. Active mode means that the software shall require human intervention in the event of low confidence plate number detection during a vehicle passage, or when a mismatch of plate numbers is detected during exit. Passive mode means the software will never interrupt the passage of vehicles in the event of a low confidence plate number detection or plate number mismatch.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The specified equipment shall be installed by a certified parking equipment installer who shall be responsible for mounting all equipment and hook-up of low voltage, computer communications and intercom wiring. Parking Equipment installer shall install all components necessary for a completely operational system as described herein.

END OF SECTION

SECTION 26 00 10 - ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section supplements all Sections of this Division and shall apply to all Work specified, indicated in the Drawings, and as required to provide a complete installation of electrical systems for the Project. Review all Sections of the Specifications for related work and coordinate the work of this Section with all other Sections.
- B. Provide all labor and services, and furnish all materials, tools, equipment, appliances, facilities, and transportation necessary for and incidental to performing the Work complete, as shown on the drawings and specified herein. All electrical systems and equipment shall be in proper operating order upon completion of the work. Work includes the following:
 - 1. Include incidental details not usually shown or specified, but necessary for proper installation and operation.
 - 2. Provide the following:
 - a. All construction power and lighting and all power for testing of equipment and systems through final acceptance tests.
 - b. Electric power conduits, conductors and cables, signal, cameras, and wireless systems conduits and cables, from their respective terminal locations within the building.
 - c. Conduits and wires for power from the panelboards to loads.
 - d. A complete system of conduits, outlet boxes, switches, receptacles, plates and wiring for power.
 - e. Outlet, junction and pull boxes, plaster rings, plates, conduit only and pull lines for the card readers, telephone, and data, television, cameras, access control, security and wireless connection systems.
 - f. Outlet, junction and pull boxes, conduits, wiring and connections of all equipment.
 - g. Complete grounding systems for the conduit system, and the equipment grounding bus system.
 - h. Testing, adjusting and cleaning of the completed work.
 - i. All line-voltage (120V) control system conduit and wiring, and all low-voltage control conduit only with pull lines, required for the automatic temperature control systems.

- j. Demolition and removal of existing electrical systems, including conduits, wiring, equipment, wiring devices, disconnects and connections, as indicated on Drawings.
- k. Access panels, fire rated as required, in the ceilings and walls where necessary for access to electrical equipment, junction boxes, pull boxes, conduit stubs, etc., located in the walls or furred ceiling spaces. Coordinate requirements for access panels with work specified in other sections.
- l. Cutting, core-drilling patching, and painting of the building structure, and finishes as required by Contractor in the performance of the work.
- m. All sleeves, hangers, supports, inserts, anchors, bolts, etc., required for the installation of this work, including design of supports and seismic restraints.
- n. All concrete required for this Division of the work including patching and repair at saw cut locations.
- o. Certified report including seismic calculations for anchorage or support of all electrical system equipment (as indicated in appropriate Specification Section), signed by a Structural Engineer registered in California. Report shall carry the approval of State Fire Marshal.
- p. Shop drawings and technical data; operation and maintenance (O&M) manuals as Optical Character Recognition PDF files.
- q. "As-built" drawings:
 - 1) At the completion of the project furnish the as-built drawings, in accordance with Division 01, and furnish the drawings on digital CD (compact disc) in the version of AutoCAD and PDF files approved by the University's Representative.
 - 2) Include University's final room numbers on these Drawings and panelboard directories, and accurately indicate and dimension all conduit runs (including those discovered during construction), and conduit stub-outs and all pullboxes from building walls on all As-built Drawings.
- r. Contractor shall be responsible to coordinate with University's Representative regarding the protection of University's installed telecommunications and security cabling/wiring, including replacement of these items damaged by Contractor, but not limited to submittals, lead times, procurement, delivery and installation.
- s. Furnish training to University's Representative, as scheduled by University's Representative, for the operation of the following:

- 1) Other training as required by other Sections of these Specifications.
- 2) Coordinate all training with University's Representative.
- t. Furnish temporary equipment, and wiring, as needed during the construction phase. Remove temporary items after use.
- u. Perform demolition and removal of electrical equipment and materials, as indicated on Drawings, complete.
- v. Schedule all outages with University's Representative.
- w. Guarantee: Refer to General Conditions, Paragraph 12.2 for information regarding the 1-year Guarantee to Repair Period. For items requiring longer guarantee periods, refer to individual Sections of the Specifications.
- x. On completion of the installation, furnish operation and maintenance (O&M) manuals in digital Optical Character Recognition PDF file format. O&M manuals shall include complete instructions from manufacturer for operation and maintenance of equipment and devices, and shall be furnished for power distribution equipment, and other items in this Division. Each manual shall include installation and operations instructions, all reports, calculations, settings, as-built shop drawings, and product data, wiring diagrams, guarantees, calculations, settings for each device, all tabulated with device designations, locations and settings available, and selected for each device.
- y. Commissioning:
 - 1) In addition, comply with requirements of Division 01.
 - 2) Furnish all information as needed for commissioning, and coordinate between trades to furnish and obtain data for O&M manuals.
- z. Operation and Maintenance manual shall include instructions, all respective reports, and all its contents in digital Optical Character Recognition PDF file format. Include names, addresses, telephone number of Contractors. Submit organized manuals on each system in separate PDF files. Contents of O&M manual shall be as approved by University's Representative.

1.2 REFERENCE STANDARDS

- A. The Following Abbreviations Apply to All Sections of Division 26:
 - 1. AC: Alternating Current.
 - 2. AIC: Ampere Interrupting Capacity.

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| 3. | ADA: | Americans with Disabilities Act. |
| 4. | AISI: | American Iron and Steel Institute. |
| 5. | ANSI: | American National Standards Institute. |
| 6. | ASTM: | American Society for Testing and Materials. |
| 7. | AWG: | American Wire Gauge. |
| 8. | CCR: | California Code of Regulations. |
| 9. | CBC: | California Building Code. |
| 10. | CBM: | Certified Ballast Manufacturers. |
| 11. | CEC: | California Electrical Code. |
| 12. | DC: | Direct Current. |
| 13. | ETL: | Electrical Testing Laboratory. |
| 14. | FS: | Federal Specification. |
| 15. | HID: | High Intensity Discharge. |
| 16. | HP: | Horsepower. |
| 17. | ICEA: | Insulated Cable Engineers Association |
| 18. | IEEE: | Institute of Electrical and Electronic Engineers. |
| 19. | NEMA: | National Electrical Manufacturers' Association. |
| 20. | NETA: | National Electrical Testing Association, Inc. |
| 21. | NFPA: | National Fire Protection Association. |
| 22. | OSHA: | Occupational Safety and Health Act. |
| 23. | PVC: | Polyvinyl chloride. |
| 24. | UBC: | Uniform Building Code. |
| 25. | UL: | Underwriters' Laboratories, Inc. |
| 26. | CSFM: | California State Fire Marshal. |

1.3 QUALITY ASSURANCE

A. General Requirements:

1. Contractor shall ensure work is performed in accordance with the certification and other requirements of California Labor Code Section 108. See Section 01 41 00.
 2. Work performed under this Division shall be installed by craftsmen skilled in the trade involved, and apprentices as indicated in the General Conditions.
 3. Furnish all control equipment for electrically operated equipment except when equipment is furnished with control equipment.
 4. Furnish all electrical Work required for the service and connection of electrically operated and controlled equipment specified in other Divisions of the Specification.
 5. All electrical power, signal, and communication systems shall be complete, tested, and ready for use.
- B. Requirements of Regulatory Agencies:
1. Codes and Ordinances: In addition to the requirements of Division 01, all materials shall bear the UL label.
- C. Electrical Acceptance Tests:
1. General Scope:
 - a. Contractor shall engage the services of a qualified testing laboratory for the purpose of performing inspections and tests of installed Work as herein specified and specified in other Sections of Division 26 of these Specifications.
 - b. The testing laboratory shall furnish all material, equipment, labor and technical supervision to perform such tests and inspections.
 - c. All tests shall be performed in compliance with the recommendations and requirements of the NETA, per Applicable Code Requirements.
 - d. Upon completion of the tests and inspections noted in these specifications, a label shall be attached to all serviced devices. These labels shall indicate date serviced and the service company responsible.
 - e. The tests and inspections shall determine suitability for continued reliable operation.
 - f. All tests shall be conducted in the presence of University's Representative and University's Electrical Inspector.
 2. Qualifications of Testing Laboratory:
 - a. The testing laboratory shall meet the Federal OSHA criteria for accreditation of testing laboratories, Title 29, Part 1907.

- b. Contractor shall submit proof of the above qualifications.
 - c. All instruments used to evaluate electrical performance shall meet NETA's Specifications for Test Instruments.
- 3. Test Reports Shall Include the Following:
 - a. Description of equipment tested.
 - b. Description of test, and applicable test standards used.
 - c. Test results.
 - d. Conclusions and recommendations, including corrective measures performed.
 - e. Appendix, including appropriate test forms, and related NETA Specifications.
 - f. List of test equipment used and calibration date.
- 4. A copy of all test reports shall be included in the Operation and Maintenance PDF submittal.
- 5. All tests to be performed and test reports submitted for review by University's Representative, minimum of ten (10) working days prior to energization of equipment.

1.4 SUBMITTALS

- A. These requirements below shall apply to each submittal for Division 26 products and materials.
- B. Shop Drawings and Product Data:
 - 1. Refer to Division 01 for procedures.
 - 2. In addition, forward all submittals in related groups. Schedule submittal package submissions so that review time for each package does not overlap the review time for another package. Individual or incomplete submittals are not acceptable.
 - 3. Identify each item by manufacturer, brand, trade name, number, size, rating, or whatever other data is necessary to properly identify and check materials and equipment.
 - 4. Identify each submittal item by reference to Specification Section paragraph in which item is specified, or Drawing and Detail number, identify deviations, if any.
 - 5. Organize submittals in same sequence as they appear in Specification Sections, articles or paragraphs.

6. Shop Drawings shall show physical arrangement, construction details and finishes:
 - a. Drawings shall be drawn to scale and dimensioned where applicable.
 - b. Catalog cuts and published material shall be included to supplement scale drawings.
7. Internal wiring diagrams of equipment shall show wiring as actually furnished for this project, with all optional items clearly identified as included or excluded. Clearly identify external wiring connections. Identify and obliterate superfluous material.
8. Submittal literature, drawings and wiring diagrams shall be specifically applicable to this Project and shall not contain extraneous material or optional choices. Clearly mark literature to indicate the proposed item. Submittals shall include, but not be limited to those items listed in individual Sections:
 - a. Include all physical and performance data, including materials, manufacturer's names, model numbers, weights, sizes, capacities, performance curves, finishes, colors, accessories, installation instructions, and all other data required to completely describe equipment and to indicate complete compliance with Specifications and Drawings.
 - b. Include with complete submittals above, complete, large scale, dimensioned Shop Drawings, certified by manufacturer, of all major equipment and other equipment as approved by University's Representative.
 - c. In addition to the requirements of Division 01, the following are required:
 - 1) Time Schedules for Submission and Ordering: The Contractor shall prepare, review and coordinate his schedule of submissions carefully, determining the necessary lead time for preparing, submitting, checking, ordering and delivery of all materials and equipment for timely arrival. The Contractor shall be responsible for conformance with the overall construction schedule.
 - 2) Submittals shall be reviewed for general compliance with Specifications only. The Contractor shall be responsible for deviations from the Drawings or Specifications and for errors or omissions of any sort in submittals.
 - 3) Submit for review to University's Representative, a complete list of material and equipment proposed for the project, including manufacturers' names and catalog numbers. Submission on all materials and equipment shall be made, even if they are as specified or shown on the Drawings.

- 4) The Contractor shall add and sign the following paragraph on all equipment and materials submitted for review. "It is hereby certified that the equipment, material shown and marked in this submittal is that proposed to be incorporated into the project; is in compliance with the Contract Drawings and Specifications and can be installed in the allocated spaces." Failure to add the above written statement for compliance shall result in return of submittals to be reviewed.
 - 5) The Contractor shall verify dimensions of equipment and be satisfied per Applicable Code Requirements for fit prior to submitting Shop Drawings for approval.
 - 6) Where current limiting devices are specified, submit technical data to substantiate adequate protection of equipment cascaded downstream. Submittals shall not be reviewed unless supporting calculations and data are submitted therewith.
 - 7) For any material specified to meet Underwriters' Laboratories, Inc. (UL) or trade standards, furnish the manufacturer's or vendor's certification that the material furnished for the work does in fact equal or exceed such Specifications.
 - 8) Submit on all materials and equipment even if they are as specified or shown on the Drawings.
 - 9) Equipment Floor Plans: After approval of material is secured, prepare a floor plan of each electrical equipment closet enclosures and room drawn to, scale of 1/2 inch equals 1 foot, and submit for approval in the same manner as for Shop Drawings. The layout drawings shall be to exact scale and indicate location of all electrical equipment.
 - 10) Resubmittals shall include written response to each item in review of previous submittal.
9. The Contractor shall furnish (1) digital copy (PDF or other standard file type approved by University's Representative) of O&M manuals. Binders will not be accepted.
- a. Operating and Maintenance Data: Submit to the University's Representative, complete and at one time, prior to acceptance of the installation, manufacturer's instructions for operation and maintenance of electrical equipment, including replacement parts lists, shop drawings, product data, all test reports, and installation instructions. Each set is indexed and identified. Segregate sections pertaining to power, lighting, etc. Each package shall include a flash drive disk containing electronic PDF files, of all the contents in the manual.
- 1) Service and operating manuals for all equipment.

- 2) Grounding system tests.
 - 3) Polarity test each receptacle connection.
 - 4) Test reports.
10. Special Submissions:
 - a. Test reports for the following:
 - 1) Ground fault devices, including ground fault interrupter (GFI) receptacles.
 - 2) Field inspection reports by manufacturer's engineer confirming that the respective equipment is installed correctly, and it meets the manufacturer's requirements.
11. Test reports required by University's Representative.
 - 1) Report indicating compliance with Contractor's furnished short circuit, coordination study, and arc fault analysis.
 - 2) 1/2" scale equipment layout for each electrical, and equipment room, indicating all working clearances.
 - 3) Items required in other Sections.
- C. Qualifications of electrical testing laboratory. Refer to paragraph 1.3C.2 above.

1.5 SUBSTITUTIONS

- A. In addition to the requirements of Division 01, should the Contractor submit a manufacturer under the "or equal" provisions of these specifications, the following information shall be included in the submittal:
 1. A complete statement addressing the systems compliance with each requirement noted in each paragraph of this section, and each paragraph of specification section for respective equipment.
- B. For equipment other than that specified, the Contractor shall supply proof that such substitute equipment equals or exceeds the features, functions, performance and quality of the specified equipment; include the technical data of the specified equipment and that of the substitute equipment, as well as a tabular comparison between the two equipment's. The submittal acceptance shall not relieve the Contractor of obligation to furnish the specified equipment or equal.
- C. Should the substituted equipment be determined not to be in compliance with this specification at any time during the course of the project, it will be the Contractor's responsibility to remove non-compliant substitute products and furnish the specified products at Contractor's expense, with no additional compensation by University.

1.6 COORDINATION DRAWINGS

- A. Submit, in AutoCAD (version as approved by University's Representative), a set of the coordination drawings for each floor level, showing electrical, mechanical, plumbing, structural and architectural for the Project, indicating coordination of electrical equipment and installation, with all work specified in other sections. Refer to Division 01. Schedule the submittal of the Coordination Drawings, to allow adequate review time, and not impact project construction schedule.
- B. Furnish the following information on, but not limited to scale drawings in plan, sections with minimum $\frac{1}{2}$ " scale or $\frac{1}{4}$ " scale as appropriate:
 - 1. Vertical and horizontal conduit type, route and size (for interior and exterior installation).
 - 2. Cabinet type, locations and size.
 - 3. Junction box type, location and size.
 - 4. Electrical equipment type, location and size.
 - 5. Pullbox type, locations and size (both internal and external).
 - 6. All sound and communication systems electrical boxes and equipment.
 - 7. Access panels.
 - 8. Telecommunication, telephone, data, and access control systems conduit layouts.
 - 9. Submit in time so as not to impact project schedule.

1.7 LOCATION AND ROUTING

- A. The Drawings indicate diagrammatically the desired location or arrangement of conduit runs, outlets, equipment, etc., and shall be followed as closely as possible. Execute the Work so as to secure the best possible installation in the available space and overcome local difficulties due to space limitations or interference with structural conditions.
- B. Locations shown on architectural ceiling Drawings or on wall elevations shall take precedence over electrical drawing locations.
- C. Verify dimensions and the correct location of equipment before proceeding with the roughing-in of connections.
- D. Lighting fixtures in mechanical spaces and elevator machine rooms are shown in their approximate locations only. Do not install light outlets or fixtures until mechanical piping and ductwork are installed; then lighting fixtures shall be installed in locations best suited for equipment arrangement and as approved by University's Representative. Verify locations of fixtures with University Representative in elevator machine rooms before installation.
- E. All scaled and figured dimensions are approximate of typical equipment of the class indicated. Before proceeding with any Work, check and verify all

dimensions, sizes, etc., with the Drawings to see that the equipment being installed shall fit into the spaces furnished.

- F. Locations of Openings: Locate all chases, shafts and openings required for the installation of the electrical Work during framing of the structure. Do any cutting and patching required due to incorrectly located or omitted openings as approved and at no additional cost to the University. Cutting or drilling in any structural member is prohibited without prior written approval of University's Representative.
- G. Access to Equipment. Locate starters, switches, receptacles, and pull boxes to provide easy access for operation, repair, and maintenance and, if concealed, furnish access doors.
- H. Rough-in locations for all electrical equipment shall be determined from approved shop drawings or from the equipment itself and shall be coordinated with work specified in other sections.

1.8 MATERIAL STANDARDS

- A. All materials and equipment shall be new. All power distribution equipment shall be approved for seismic zone and requirements.
- B. All Work shall comply with Applicable Codes Requirements. Division 01, including:
 - 1. NEMA.
 - 2. ANSI.
 - 3. IEEE.
 - 4. ICEA.
 - 5. CEC
 - 6. UL.
- C. Items for similar application shall be of the same manufacturer.
- D. The label of listing by UL shall appear on all materials and equipment for which standards have been established by the agency.
- E. Where Codes listed in Division 01, establish label or approval requirements, furnish all materials and equipment with either the required labels affixed or the necessary written approval.
- F. Provide the type and quantity of electrical materials and equipment necessary to complete Work and all systems in operation, tested and ready for use.
- G. Provide all incidental items that belong to the Work described and which are required for complete systems.

1.9 TESTING

- A. Upon completion of the Work and adjustment of all equipment, conduct an operating test for each system approval. Conduct the test in the presence of University's Representative and University's Electrical Inspector. Demonstrate all systems and equipment to operate in accordance with all requirements of the Contract Documents and to be free from all electrical and mechanical defects. Furnish all systems free from short circuits and incorrect grounds and show an insulation resistance between phase conductors and ground not less than 250,000 ohms. Test all circuits and terminations for correct neutral connection, as well as phase connections.
- B. Complete all tests prior to final field observation of Project, including corrective Work based on the results of the tests.

1.10 TRAINING

- A. Furnish a period of eight (8) hours for the necessary training programs and instructions to University's Representative, unless indicated otherwise in individual specification sections.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Whenever possible, all materials and equipment used in the installation of the work shall be of the same brand or manufacturer for each class of material or equipment and be U.L. Listed.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Be responsible for and install electrical equipment as specified in individual specification sections, and in accordance with manufacturers' recommendations, and per Applicable Code Requirements, for safe installation.

3.2 DEMOLITION

- A. General:
 - 1. The work involves demolition of existing conduit, conductors and equipment.
 - 2. Electrical drawings show demolition, relocation, removal or rerouting of existing equipment.

3. Coordinate with University's Representative regarding specific items that are to be demolished or removed and retained, otherwise, all demolished or Contractor removed materials become the property of the Contractor, unless otherwise indicated. Contractor shall be responsible for removing such materials from the job site. Refer to Division 01.
 4. Contractor shall restore or maintain continuity of circuits to outlets or devices that are to remain.
 5. Where existing panelboards are to be replaced, the Contractor shall reconnect existing branch circuit homeruns (that are to remain) to the new replacement panelboard.
 6. Where existing panelboards are to be relocated, the Contractor shall extend all existing circuits that are to remain to the new panelboard location.
 7. Contractor to dispose of hazardous waste, including ballasts and lamps, per Applicable Code Requirements.
 8. Furnish temporary equipment and wiring as required.
 9. Existing materials and construction that are not to be demolished shall be protected. Any such materials that are damaged shall be replaced with new to match existing.
- B. Equipment: All the existing equipment to be removed shall be disassembled or cut into pieces to allow removal through available existing openings.
- C. Conduits (Branch): Conduit shall be capped for all abandoned installations and indicated on As-Built drawings.

3.3 SERVICE CONTINUITY

- A. Refer to Division 01 for "shut-down" information.

3.4 PROTECTION AND CLEANING

- A. Protection: Fully protect all finished parts of the materials and equipment against physical damage from whatever cause during the progress of this work and until completion.
- B. During construction, cap all conduits so as to prevent the entrance of sand and dirt.
- C. Cleaning: After installation has been completed, the Contractor shall clean all systems as follows:
1. Equipment with factory finish: Clean exterior thoroughly to remove grease, oil, plaster, cement and dirt, and leave surfaces clean and polished.

2. Equipment to be painted: Clean exterior of piping and equipment exposed in completed structure, removing rust, plaster, cement and dirt by wire brushing. Remove grease, oil and similar materials by wiping with clean rags and solvents.

3.5 PAINTING

- A. Coordinate painting with University's Representative.

3.6 CUTTING AND PATCHING

- A. Include all cutting, patching, painting, removal of existing construction, and reconstruction of same, for completing the electrical installation. Coordinate with architectural and electrical drawings for scope of demolition. Adjust conduits within these areas so they are concealed.
- B. Sleeves and Inserts: Provide all sleeves, inserts, and openings necessary for the installation of the electrical work. Sleeves shall be as approved by University's Representative.
- C. Openings for All Electrical Equipment Shall be Field Verified:
 1. Special forming, recesses, chases, and curbs, as necessary for the correct reception and installation of the electrical equipment, as shown on the Drawings, are specified in other Divisions.
 2. The Contractor shall examine all Drawings to ascertain that correct provisions have been made for the work. If such provisions are not made in time, the Contractor shall bear all extra costs incurred in later cutting and patching to accommodate this work.

3.7 SEISMIC RESTRAINTS AND VIBRATION ISOLATION

- A. Provide seismic restraints and supports for equipment and work as specified in Section 26 0548, Vibration And Seismic Controls For Electrical Systems, other specification sections, and as noted on drawings. Seismic restraints and supports shall be installed directly after installation of any work requiring them, so as to avoid concealment or difficulty of access. Contractor shall be responsible for any costs and delays associated with gaining access to any installation needing restraints or supports.
- B. Provide vibration isolators for all electrical equipment that emits noise and vibration.
- C. Equipment Supports:
 1. Furnish seismic calculations, and submit to University's Representative for review, for each location. Calculations to be stamped and signed by California registered Structural Engineer.

END OF SECTION

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.2 ACTION SUBMITTALS

- A. Refer to Division 01 for procedures and Section 26 0010, Electrical General Provisions for additional requirements.
- B. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Refer to Division 01 for procedures and Section 26 0010, Electrical General Provisions for additional requirements.
- B. Field quality-control reports.

1.4 QUALITY ASSURANCE

- A. Testing: The Contractor shall pay for the services of a certified testing laboratory to perform tests. Refer to Division 01, and Section 26 0010, electrical general provisions, for detailed requirements, in addition to requirements of this Section.
- B. Electrical Components, Devices, and Accessories: Listed and labeled per CEC.
- C. Comply with CEC.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Insulated wire conductors for circuit voltage, 600 volts or less, shall be copper, minimum size #12 AWG. Control wiring may be #14 AWG minimum except where otherwise shown.
- B. Conductors shall have UL approved 600 volt insulation of type specified below or elsewhere in the Specifications.

1. Branch Circuits - Lighting and Power:
 - a. #10 AWG and smaller, solid wire Type THW or THHN/THWN, THHN.
 - b. #8 AWG and larger, stranded Type THW or THHN/THWN.
- C. Connectors for #10 conductor and smaller UL listed for 600 volts, UL approved for use with copper, cone shaped, expandable coil spring insert, insulated with a nylon shell and two wings placed opposite each other to serve as a "built-in" wrench. Shell shall be molded one-piece as manufactured by Ideal Industries, Wing Nut, or equal.
- D. Connectors for #8 AWG and larger shall be screw pressure lugs made of high strength structural aluminum alloy and UL approved for use with copper wire as manufactured by Burndy "Versitaps", or equal.
- E. All conductor insulation shall be color coded to indicate phase leg, voltage and use. If color coded wire is unavailable, color banding (minimum 2 inches wide) shall be required where conductors are visible. This color coding is acceptable only in size AWG #8 and larger.
- F. Conductor insulation type, size and UL approval shall be printed with permanent white paint on all conductor insulation continually repeating.
- G. All conductors shall be new and shall have been manufactured within 12 months of the date of delivery to the Project site and continuously stored where protected from the heat or weather.
- H. Vertical cable supports shall be O.Z. Gedney Type M, or equal.
- I. Insulating Tape - Plastic Self-Adhering: 3M, Scotch No. 3, or equal.
- J. Conductor tags shall be pre-marked, self-adhesive wrap-around cloth type. Manufacturer T&B Easy Code, or equal.
- K. Conductor ties shall be plastic with cinching holders. Manufacturers T&B Ty-Rap, or equal.
- L. Conductor sealant shall be silicone type Dow-Corning No. 795, or equal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The Following Color Code Prevails for All Branch Circuits and Feeders:
 1. Neutral: White for 208/120.
 2. Ground: Green.

3. Phase A: Black for 208/120.
 4. Phase B: Red for 208/120.
 5. Phase C: Blue for 208/120.
 6. Three-way travelers: Orange.
 7. Switch legs same color as phase leg.
- B. For conductors installed in areas subjected to temperatures exceeding 140°F, including terminating in incandescent lighting fixtures and installed through or into housing containing ballasts, provide type THHN.
- C. For conductors installed in exposed conduit outside of buildings and conduit within or just under roofing material, provide type THHN.
- D. Tape all connections made with non-insulated type connectors with insulating tape to 150 percent of the insulating value of conductor insulation.
- E. Each circuit shall correspond to the branch circuit number indicated on the panel schedule shown on the Drawings unless otherwise approved by University's Representative.
- F. Where conductors in conduit pass through exterior walls, a sealing compound of moisture-resistant material shall be applied in the ends of the conduits to seal around the conductors. Sealant shall be Dow-Corning No. 795, or equal.
- G. Tag all conductors of power circuits and the various signal and sound systems. Conductors shall be tagged in each junction box, pull box, wireways or auxiliary gutter and at each device, motor outlet, panelboard, switchboard or other conductor termination. Tag shall show feeder number, size, phase and origin.
- H. Wiring within all equipment enclosures shall be neatly grouped and tied together.
- I. Pigtails shall be extended from branch wiring in outlet boxes for attachment to devices. Loops in through wiring shall not be acceptable.
- J. Conductors in outlet boxes shall have a minimum of 8 inches of extra conductors.
- K. Tag all conductors in pull boxes, junction boxes, pull boxes, and wireways, indicating panel board and circuit number.
- L. Tag all feeder conductors with designation (power source and circuit number) in each equipment enclosure.

- M. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- N. Complete raceway installation between conductor and cable termination points according to Section 26 0533, Raceways and Boxes for Electrical Systems, prior to pulling conductors and cables.
- O. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- P. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

3.2 FIRESTOPPING

- A. Coordinate the application of firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly with University's Representative.

3.3 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare reports.
 - 1. Visual and mechanical inspection.
 - a. Inspect cables for physical damage and proper connection.
 - b. Torque test cable connection. Tighten connections in accordance with industry standards.
 - 2. Electrical tests.
 - a. Perform insulation resistance test of each cable with respect to ground and adjacent cables.
- B. Cables will be considered defective if they do not pass tests and inspections.

END OF SECTION

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes grounding and bonding systems and equipment.
- B. The Contractor shall test for continuity of the conduit ground. Document finding in report and inform University's Representative of any issues with continuity of ground.

1.2 ACTION SUBMITTALS

- A. Refer to Division 01 for procedures and Section 26 0010, Electrical General Provisions for additional requirements.
- B. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Refer to Division 01 for procedures and Section 26 0010, Electrical General Provisions for additional requirements.
- B. Product Data:
 - 1. Wire and cable.
 - 2. Splice details.
 - 3. Connectors.
- C. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.
 - 1. In addition to items specified in Division 01, include the following:
 - a. Instructions for periodic testing and inspection of grounding features at grounding connections for separately derived systems.
 - 1) Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.

- 2) Include recommended testing intervals.

1.5 QUALITY ASSURANCE

- A. Testing: The Contractor shall pay for the services of a certified testing laboratory to perform the specified tests. Refer to Division 01 and Section 26 0010, electrical general provisions, for detailed requirements, in addition to the requirements of this Section.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in CEC, by a certified testing agency, and marked for intended location and application.
- C. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Grounding and bonding conductors shall be soft-drawn stranded copper conductors.
- B. Buried or concealed joints shall be made by exothermic welding. All such joints shall be inspected and approved by University's Representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. In addition to the requirements of the codes as listed in Division 01, provide grounding and bonding in accordance with all requirements of CEC, Drawings and following descriptions.
- B. Metallic conduits, wireways, metal enclosures of busways, electrical equipment housing and all non-current metallic parts shall be grounded. The metallic conduit system shall be used for equipment and enclosure grounding but not as a system ground conductor.
 1. Low resistance contacts, with high mechanical strength, shall be made between conduits and boxes and at all panels, panelboards, terminal cabinets, outlet boxes, junction and pull boxes and wherever the conduit run is broken. Permanently and effectively ground all conduits, fixtures, motors, and other apparatus and equipment.
- C. All conduit stub-ups shall be grounded and where multiple stub-ups are made within an equipment enclosure, such as a switchboard, they shall be equipped with grounding bushings and bonded together and to the enclosure and the enclosure ground bus and connect to cold water ground.

- D. All branch circuit wiring in non-metallic conduit shall carry a green TW insulated CEC sized ground conductor per circuit correctly connected for electrical ground continuity.
- E. An equipment ground conductor shall be installed in each raceway with branch circuit wiring, adjust conduit size as required per Applicable Code Requirements.
- F. Flexible conduit shall not be used as a ground path. Include CEC sized green conductor in all flex conduit.
- G. Provide CEC-approved bonding devices, fittings or jumpers at expansion fitting, isolation sections or wherever continuity of ground is broken.
- H. Provide bonding devices, fittings, jumpers, at expansion fittings, isolation sections or wherever continuity of ground is broken.
- I. Install grounding and bonding conductors with sufficient slack to prevent breaking due to settlement and movement of conductors at attached points.
- J. Resistance to ground for electrical systems shall not exceed 5 ohms measurement and additional grounding shall be provided to attain this value or less.
- K. The resistance to ground for all systems shall be measured by the "direct" method or "fall-of-potential" method.
- L. Perform fall of potential test per IEEE Standard No. 81, Section 9.04 on the main grounding electrode or system.

3.2 FIELD QUALITY CONTROL

- A. Engage a certified testing agency to perform the following tests and inspections and prepare test reports.
 - 1. Conduct resistance-to-ground tests to measure resistance-to-ground at all grounding electrodes. Perform tests before the slabs of affected areas are poured in order that corrective measures, if needed, may be taken.
 - 2. If the resistances exceed values specified, perform all corrective measures approved by University Representative.
 - a. Equipment rated 500kVA and less: 10 Ω .
 - b. Equipment rated 500 to 1000kVA: 5 Ω .
 - c. Equipment rated more than 1000kVA: 3 Ω .

3. The laboratories grounding system shall have a maximum resistance of 1 ohm as measured from the laboratories ground to earth ground.
4. Perform "fall of potential" tests on the main grounding electrode system per IEEE Standard No. 81, Section 9.04.
5. Perform the two (2) point method test per IEEE No. 81, Section 9.03 to determine the ground resistance between the main grounding system and all major electrical equipment frames, system neutral and derived neutral points.
6. Visual and mechanical inspection of all system connections.

END OF SECTION

SECTION 26 05 29 - HANGERS AND SUPPORT FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
- B. Related Sections include the following:
 - 1. Section 26 0548, Vibration and Seismic Controls For Electrical Systems for products and installation requirements necessary for compliance with seismic criteria.

1.2 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. RMC: Rigid metal conduit.

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design supports for multiple raceways, including comprehensive engineering analysis by a California Registered Professional Engineer, using performance requirements and design criteria indicated.
- B. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.
- C. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
- D. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.

1.4 ACTION SUBMITTALS

- A. Product Data: For each product indicated.
- B. Shop Drawings: Signed and sealed by a California Registered Professional Engineer. Show fabrication and installation details and include calculations for the following:
 - 1. Trapeze hangers. Include product data for components.
 - 2. Steel slotted channel systems. Include product data for components.

3. Fabricated metal equipment support assemblies.

1.5 QUALITY ASSURANCE

- A. Comply with CEC.
- B. All seismic restraining devices shall comply with the current seismic requirements of the State of California.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
 1. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 2. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 3. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 4. Channel Dimensions: Selected for applicable load criteria.
- B. Nonmetallic Slotted Support Systems: Structural-grade, factory-formed, glass-fiber-resin channels and angles with 9/16-inch-diameter holes at a maximum of 8 inches on center, in at least 1 surface.
 1. Fittings and Accessories: Products of channel and angle manufacturer and designed for use with those items.
 2. Fitting and Accessory Materials: Same as channels and angles.
 3. Rated Strength: Selected to suit applicable load criteria.
- C. Raceway and Cable Supports: As described in CEC Chapter 3.
- D. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- E. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- F. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

- G. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Verify suitability of fasteners in subparagraph below for use in lightweight concrete or concrete slabs less than 4 inches 100 mm thick.
 2. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened Portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 3. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened Portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 4. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
 5. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
 6. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
 7. Toggle Bolts: All-steel springhead type.
 8. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- B. Materials: Coordinate requirements for steel shapes and plates with University's Representative.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with CEC Chapter 3 for application of Hangers and Supports for Electrical Equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, and RMC as required by CEC. Minimum rod size shall be 1/4 inch in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with two-bolt conduit clamps.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with CEC Chapter 3 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in CEC, EMT may be supported by openings through structure members, as permitted in CEC.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by CEC:
 1. To New Concrete: Bolt to concrete inserts.
 2. To Existing Concrete: Expansion anchor fasteners.
 3. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches thick.
 4. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts.
 5. To Light Steel: Sheet metal screws.
 6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Coordinate installation requirements of site-fabricated metal supports with University's Representative.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

3.4 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
- B. Touchup: Coordinate requirements for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal with University's Representative.
- C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION

SECTION 26 05 33 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Nonmetal conduits, tubing, and fittings.
3. Metal wireways and auxiliary gutters.
4. Surface raceways.
5. Boxes and enclosures.
6. Handholes and boxes for exterior underground cabling.

1.2 DEFINITIONS

- A. GRC: Galvanized rigid steel conduit.

1.3 ACTION SUBMITTALS

- A. Refer to Division 01 for procedures and section 26 0010, Electrical General Provisions, for additional requirements.
- B. Product Data: Wireways and fittings, hinged-cover enclosures, and cabinets.
- C. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.4 INFORMATIONAL SUBMITTALS

- A. Refer to Division 01 for procedures and Section 26 0010, Electrical General Provisions, for additional requirements.
- B. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
1. Structural members in paths of conduit groups with common supports.
 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.

3. Coordinate access to boxes and enclosures with accessible ceiling panel locations, as required. Submit locations to University's Representative for approval.
- C. Seismic Qualification Certificates: For enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.
 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
 4. Detailed description of conduit support devices and interconnections on which the certification is based and their installation requirements.
- D. Source quality-control.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Sleeves shall be zinc coated galvanized steel pipe or 18 gauge galvanized sheet metal. Manufacturer: RK Industries, or equal.
- B. Anchors not cast into concrete shall be expansion shield type, Thomas & Betts Corp., or equal.
- C. Conduit seals shall be 3M, or equal, with sealing compound.
- D. Sealant: Fire rated equal to wall or ceiling penetrated as manufactured by 3M-Fire Barrier 2001 Silicone STV Foam, or equal.
- E. Expansion couplings shall be Thomas & Betts Corp., or equal, complete with bonding jumper.
- F. Conduit unions shall be Thomas & Betts Corp., or equal.
- G. All conduit fittings shall be insulated throat type.
- H. Fittings shall be compatible with raceways and suitable for use and location.
- I. Anchors not cast into concrete shall be expansion shield type, Phillips "Red Head" or equal.

2.2 METAL CONDUITS, TUBING, AND FITTINGS

- A. Rigid Metallic Conduits and Fittings: Standard weight steel that is hot-dipped galvanized, or sherardized both inside and out, with threaded connectors and couplings. Electro galvanizing is not permitted.

- B. Electric Metallic Tubing (EMT) and Fittings: Tubing of high-grade steel with exterior protective coating of zinc, applied by the electrogalvanized process. Interior of surface coated with aluminum lacquer or enamel. EMT shall be dipped in a chromic acid bath to chemically form a corrosion-resistant protective coating of zinc over galvanized surface. Fittings shall be watertight compression type, wrench tightened connectors and couplings.
- C. Flexible Steel Conduits: Conduit manufactured from single strip, standard weight steel galvanized on all four sides prior to conduit fabrication.
- D. Flexible Conduit Connectors and Couplings: Die cast fittings of the type that screw into the inside of the conduit with threaded edges at 90° to the fitting body to ensure a force fit.
- E. Flexible liquidtight Steel Conduits and Fittings: Manufactured from single strip standard weight steel, galvanized on all four sides prior to conduit fabrication, and furnished with an extruded PVC cover. Use liquidtight fittings to achieve positive ground continuity including ground conductor. Flexible conduit shall be cut at right angles for installation.

2.3 NONMETALLIC CONDUITS, TUBING, AND FITTINGS

- A. Rigid Plastic Conduits and Fittings: Heavy wall, 90°C rated, virgin PVC Schedule 40 with self-extinguishing additive, conforming to UL requirements. Schedule 80 PVC, conforming to UL requirements for all conductors under buildings outer walls with 5' outside extension. Manufacturer: Carlson, or equal.

2.4 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Provide products by the following:
 - 1. Square D; a brand of Schneider Electric.
 - 2. Or equal.
- B. Description: Galvanized sheet metal, unless otherwise indicated, and sized according to CEC.
- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Hinged type unless otherwise indicated.
- E. Finish: Manufacturer's standard enamel finish.

2.5 SURFACE RACEWAYS

- A. Manufacturers: Provide products by one of the following:
 - 1. Legrand/Wiremold.
 - 2. Hubbell.
 - 3. Or equal.

- B. Two-piece construction consisting of a formed rectangular trough and snap-on cover plate. Trough shall be 0.060" thick sheet steel and cover plate shall be 0.04" thick steel. Trough shall be 4-3/4" high by 3-3/4" deep, unless otherwise noted.
- C. Prewired where possible to reduce site errors and assembly time.
- D. Metal device plates and fittings. Devices to remain fixed in place with cover removed. Provide retentive brackets as required.
- E. Satin anodized aluminum finish.
- F. Sizes shall be as indicated on the drawings.

2.6 BOXES AND ENCLOSURES

- A. Outlet boxes and covers shall be galvanized, pressed steel and plugged holes and shall be hot dipped galvanized or sherardized. All boxes shall be of CEC size for the number of wires or conduits passing through or terminating therein, but in no case shall any box be less than 4-inch square by 2-1/8 inches deep, unless specifically noted as smaller on the Drawings. For boxes concealed in walls or ceiling, provide the solid gang, galvanized or sherardized pressed steel knockout type. Sectional boxes shall not be used.
- B. Lighting fixture outlet boxes shall be equipped with fixture-supporting device, as required by the unit to be installed.
- C. Lighting fixture outlet boxes installed on the T-grid shall be provided with (4) T-bar slots.
- D. Exposed boxes in mechanical areas or exposed to weather shall be cast iron weatherproof boxes with grounding terminal, threaded hubs and gaskets, Type "FS" or "FD" Series with 3/4 inch and 1" hubs, manufactured by Crouse-Hinds, Appleton, or equal. Pot metal boxes are not acceptable.
- E. Outlet boxes in hazardous areas, and outdoor locations, shall be cast metal with threaded hubs, approved for class of hazardous area where installed.
- F. J-boxes for LCD panel shall be Legrand/ P&S TV2MW, Hubbell Advantage NSAV62M or equal.
- G. Switch Outlets: Use solid gang boxes for three or more switches for mounting behind a common single plate, with barriers to separate voltages where required.
- H. Fire alarm boxes shall be 4-inch square with plaster rings to suit type of device, painted red, inside and outside.
- I. Condulets shall be cast iron with threaded hubs for 3/4 inch and 1-inch conduits. Type "FS" or "FD" Series, manufactured by Crouse-Hinds, or equal.
- J. Fire rated putty pads for boxes, U.L. Listed, located in fire-rated walls, ceilings, and partitions, Hilti #CP617, or equal.
- K. Sheet steel pullboxes shall be fabricated of the gauge of sheet metal required by the CEC, galvanized after fabrication, furnished with required knockouts and

removable screw cover. Finish with prime coat ready for painting, where exposed to public view; ANSI 61 light gray in other locations. Covers for pullboxes larger than 30" shall be two sections with handles.

- L. Provide cast iron pullboxes with gasketed screw cover and drilled and tapped holes as required. Provide boxes manufactured by O.Z. Gedney, or equal.

2.7 CABINETS

- A. Cabinets shall be flush, or surface mounted type as indicated. Cabinets shall be constructed of the gauge of sheet steel required by the CEC, with hinged lockable doors, common keyed with panelboards, equipped with 3/4" fire retardant plywood backboard; terminal blocks for connection; index card holders; and cards mounted behind heavy plastic on the inside of the cabinet doors. Size as indicated on the Drawings. Finish with a zinc primer when located in interior or exterior areas exposed to public view and ANSI 61 factory enamel when located in janitors' closets, mechanical rooms, and electrical equipment rooms. Provide cabinets manufactured by Eaton Cutler-Hammer, or equal. Minimum depth of cabinets shall be 6".
- B. Cabinets for spare fuses shall be as manufactured by Square D, or equal, with suitable shelving to accommodate quantity and size of fuses to be stored.

2.8 BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. Cast Iron Boxes: Cast iron pullboxes shall be watertight, and rubber gasketed, with cast iron or galvanized steel cover and brass screws as manufactured by Alhambra Foundry, Russell & Stoll Company, or equal. Boxes shall be sized and installed as indicated with tapped outlets to fit conduits. Conduit connections to box shall be made up and painted as specified for conduit joints. Cast iron pullboxes in long conduit runs, other than those shown on the Drawings, shall be installed only upon the approval of University's Representative.
- B. Precast Concrete Pullboxes: Concrete pullboxes shall be Traffic Type, for H20 loading, of sizes shown, precast in sections, with cast iron cover marked "Electric" or "T" and with brass hexhead screws. Boxes shall be Jensen, or equal.
- C. Dampproofing: Dampproofing material shall be Sonneborn Sons, Inc., Hydrocide 700, or equal.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. General
 - 1. The size of the conduits for the various circuits shall be as indicated on the Drawings and as required by CEC for the size and number of conductors to be pulled therein. CEC requirements shall prevail where fill is not shown on Drawings.
 - 2. Open ends of conduits shall be capped or plugged until ready to pull in conductors.

3. Deliver conduits to site in standard length and store where protected from moisture and weather.
4. No conduit shall be smaller than $\frac{3}{4}$ inch for power and 1-1/4 inch for telecommunications unless otherwise indicated on the Drawings.
5. Complete raceway installation before stating conductor installation.
6. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
7. Install no more than the equivalent of three 90-degree bends in any conduit run. For communication conduit, fewer bends are allowed.
8. Install pull wires in all empty raceways, Use polypropylene or monofilament plastic line with not less than 200 lb. tensile strength. Leave at least 12 inches of slack at each end of pull wire.
9. Install raceway sealing fittings at suitable, approved and accessible locations as required by CEC and fill with listed sealing compound.
10. Raceway terminations at locations subject to moisture or vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
11. Use insulated bushings and locknuts on all conduits where entering pullboxes, junction boxes, outlet boxes, cabinets and similar enclosures, and for all signal and telephone conduits terminated in cabinet or backboards.
12. Tag all empty conduits at each accessible end with a permanent tag identifying the purpose of the conduit and the location of the other end. In wet, corrosive outdoor or underground locations, use brass, bronze, or copper 16 gauge tags or lead tags secured to conduit ends with #16 or larger galvanized wire. Inscribe on the tags, with steel punch dies, clear and complete identifying information.
13. Provide expansion and deflection fittings where two rigidly supported conduits may move in relation to each other at expansion or seismic joint crossings.
14. Ream the ends of all conduits.
15. Paint fire alarm conduits with a 1-inch wide red band every 5 feet of run.
16. Seal all conduits from exterior outlets at first interior junction to prevent moisture from entering the building through the conduits.
17. In order to prevent water from coming in, all conduits entering buildings, substations, and other structures shall have seals between the conduits and the structure walls. The space between the cables and conduit inside walls shall be sealed as well as using separable conduit sealing bushings manufactured by 3M or equal. Empty conduits shall be securely plugged or capped to prevent water seeping.

18. A separate conduit shall be installed for each homerun indicated on the Drawings.
19. Sleeves: Where conduits pass through concrete walls, suspended slabs or metal deck floors, provide sleeves of ample size to permit installation of conduits. Sleeves extend 2 inches above floor surfaces. Verify location with University's Representative.
20. Finish Around Sleeves: Rough edges shall be finished smooth. Space between conduits and sleeves where conduit passes through exterior walls shall be sealed to permit movement of conduit but prevent entrance of water. Space between conduit and sleeves where conduits pass through fire rated interior walls and slabs shall be sealed with approved materials to provide a fire barrier, no less than the existing rating of the wall / floor.
21. Install all exposed conduits parallel to and perpendicular to the building structure.
22. Exposed conduits larger than 1" shall be suspended with pipe hangers. Pipe hangers for individual conduits shall be Super Strut No. M-718-SR, or equal, malleable iron split pipe rings, suspended from hanger rods. Rods shall be 3/8" for 2" and smaller conduits, and 1/2" for 2-1/2" and larger conduits. Hangers and racks shall be attached to concrete with insets, set at the time the concrete is poured, and to steel members with beam clamps or machine bolts.
23. Conduits 1" and smaller, in metal and stud partitions, shall be tied to the furring channels with No. 12 gauge galvanized tie wire spaced not more than 5' apart. Conduits 1" and smaller for service to lighting fixtures (other than home runs) may be supported in the same way. Conduits above metal channel lath and plaster ceilings for other services and lighting home runs shall be supported.
24. Conduit clamps and hanger rods attached to concrete structures shall be secured by machine bolts or rods screwed into anchors. Anchors not cast into the concrete shall be of the expansion shield type, Phillips "Red Head", or equal.
25. Wherever conduits extend through roof, provide approved galvanized sheet metal flashing. Flashing shall extend 6" above roof.
26. Install conduit seals in all conduits entering or leaving hazardous areas, refrigerated rooms and clean rooms. Use seals as described in Paragraph 3.1A.20 above.
27. Except as otherwise indicated on the Drawings, bends in conduits 2" or larger shall have a radius of curvature of the inner edge, equal to not less than ten (10) times the internal diameter of the conduit. Any deviations from this radius shall be approved by University's Representative. Wire or cable bends in junction or pull boxes shall be made with a "U" shape against the inside surface of the manholes, junction or pull boxes to provide extra length for future redevelopment. Bends for 600-volt cable shall have a radius of not less than five (5) times the diameter of the cable. Nesting of conduits shall be made when two or more conduits are

- run in parallel. Telephone, data, wireless systems, and television conduit runs shall not have more than two 90° radius bends. All other conduit runs (below 600 volts) shall not have more than three 90° radius bends between pull boxes, junction boxes or terminal cabinets. Provide boxes as required to maintain limitation of bends.
28. Conduit shall not be run closer than 6" to any hot water pipe, and 12" from steam pipe, and heater flue or vent.
 29. Provide condulets for exposed runs of conduits where junctions, 90° bends or offsets are required, whether such condulets are indicated on the Drawings or not. Conduit bends shall not be permitted around the corners of beams, walls or equipment. All condulet covers shall be accessible. Condulets 2" or larger shall be Crouse-Hinds Type "LBD", Appleton "LBD", or equal.
 30. All control apparatus, outlet boxes, junction and pull boxes, and other similar equipment shall be installed and maintained in accessible positions and locations.
 31. Conduits in furred spaces shall be routed to clear access openings.
 32. Where steel conduits enter a concrete floor below a surface mounted panelboard, they shall be encased in a concrete curb of sufficient height to match the height of the finished base tile, and a minimum of 4 inches.
 33. Holes for conduits through existing concrete walls or floors shall be made by the "core-drill" method. Perform x-ray at slab/wall to locate existing steel in slab, to minimize cutting of steel bars. Submit details to University's Representative for review.
 34. For Telecom, data, access system, cameras, card readers, building entry units, dimmer devices or equipment, provide pull box for every 180 degrees of bending in conduit route.
 35. Provide independent support for all conduits rising from floor for motor connections if over 18" above floor. Do not support to motor, to ductwork or mechanical equipment.
 36. Conduits which are installed above dry type suspended ceilings shall not be secured to ceiling support wires. Support such conduit independent of ceiling suspension systems.
 37. Keep bends and offsets in conduit runs to an absolute minimum. Replace all deformed, flattened or kinked conduits at Contractor's expense.
 38. Support conduits 1" and larger with pipe clamps either suspended from structural slabs with a rod at least 3/8" diameter with adjustable pipe ring or mounted on wall from channel supports. Attach to concrete with Phillips "Red Head", "Hilti", or equal drilled anchors. Where two or more conduits 1-1/2" and larger are suspended from ceiling, use trapeze type hanger suspended from rods.

39. Where rigid metal conduits and electrical metallic tubing are supported from building members, supports shall be installed as follows:
 - a. Conduit Sizes:
 - 1) 3/4" to 1-1/4" Inclusive: Within 18" of each outlet and on either side of couplings and fittings and at a spacing not to exceed 8'.
 - 2) 1-1/2" and Larger: Within 3' of each junction or pullbox and terminal cabinet and at a spacing not to exceed 8'.
 - b. When rigid conduits are supported from trapezes, the supports shall be spaced not more than 8' apart.
 - c. Conduit trapezes shall consist of "Unistrut" or "Kindorf" channels and fittings, or equal, in accordance with the manufacturer's printed recommendation.
 40. Secure exposed conduit runs on concrete, plaster or other construction in place with cast conduit clamps affixed with metallic expansion anchors, and cadmium plated machine or lag screws.
 41. Do not strap or fasten rigid conduits to mechanical equipment, or to equipment subject to vibration or mounted on shock absorbing bases.
- B. Rigid Steel Conduits
1. Use for all sizes where directly exposed to weather; where subject to abnormal conditions of heat, cold, moisture, humidity, fumes and hazardous elements; where installed exposed below 7-1/2', in areas where subject to mechanical injury. Use for all conduit in all electrical and mechanical equipment rooms; for low voltage (up to 600 volts) feeders inside of building and in concrete slabs on grade.
 2. For all bends in conduits 1-1/4" and larger, use large radius factory made bends or field fabricate with a power bender.
 3. Cut threads on conduits to standard taper and to a length such that all bare metal exposed by the threading operation shall be completely covered by the couplings or fittings used. Securely tighten all threaded connections. The ends of all conduit shall be cut square and reamed to full size with a tapered burring reamer. Treat any exposed threads at box hubs with protective coating to prevent corrosion but maintain ground continuity.
 4. Use conduit unions to connect two rigidly held conduits. Running thread shall not be accepted.
- C. Rigid Plastic Conduits:
1. All conduits installed underground 5' outside of building lines, except sweeps and risers shall be PVC Schedule 40, unless otherwise noted.

2. Make all fittings in plastic conduits watertight with approved solvent-weld cement specifically manufactured for the purpose. Apply heat for bends so that conduit does not distort or discolor. Use a spring mandrel as required to assure full inside diameter at all bends.

D. Electrical Metallic Tubing (EMT)

1. Use for all sizes up to and including 1-1/2" maximum trade size in dry locations as in stud partitions and furred ceiling spaces.
2. Conduits shall be continuous from outlet to outlet to panel except where rigid steel conduits are required or indicated.
3. EMT shall not be run exposed. EMT shall not be installed in concrete.
4. EMT conduits shall not be used for, feeders to panelboards, motor control centers and switchboards.
5. EMT shall not be used in mechanical and electrical equipment rooms.

E. Flexible Steel Conduits:

1. Install for all attachments to transformers and motorized equipment or vibrating equipment connections, minimum 36" long, or for connections to recessed fixtures from junction or pullboxes. Maximum length for any application shall be 6'. Flexible conduits shall be installed so they are slack-to-the-touch, so they are easily moveable.
2. Provide liquid tight flexible steel conduits with separate insulated, stranded copper equipment ground conductors for connections in areas exposed to the weather, damp or wet locations and connections to motors, variable frequency or speed drives, transformer enclosures, and other vibrating equipment regardless of location.
3. Cut flexible conduits at right angles for installation.
4. Do not use flexible conduits for telephone, data, television, cameras, card readers, building entry units, dimmer devices or equipment.

F. PVC Jacketed Steel Conduits:

1. Use for all sizes in soil below the building.
2. For all bends in conduits 1-1/4" and larger, use large radius factory made bends or field fabricate with a power bender.
3. Cut threads on conduits to standard taper and to a length such that all bare metal exposed by the threading operation shall be completely covered by the couplings or fittings used. Securely tighten all threaded connections.
4. Wrap all joints with two layers of 10 mil PVC tape.
5. All conduits and fittings which have a damaged PVC coating shall be replaced at Contractor's expense.

3.2 INSTALLATION OF UNDERGROUND CONDUIT

- A. Use PVC Schedule 40, encased in concrete, for runs outside the building, unless otherwise noted. Use PVC jacketed steel conduits under the building. At building entry points (inside building) provide tags on all conduits clearly stating "CAUTION -- HORIZONTAL RUNS EXTERIOR TO BUILDING ARE PLASTIC. GROUND CONDUCTOR REQUIRED".
1. When PVC is used, all sweeps and elbows shall be galvanized rigid steel coated with PVC.
 2. Encase all nonmetallic feeder conduits installed underground in a 3" concrete envelope. Extend concrete envelope a minimum of 3" beyond external sides of outermost conduits. Space the external surfaces of conduit within a bank, a minimum of 3" apart and 7.5" center-to-center spacing, whichever is greater, except that all sound, telephone, and intercommunication circuits contained within nonmetallic conduits shall have minimum separation of 12" from any light or power circuits that parallel them within a bank. Install separate ductbanks for power circuits and separate for telephone, and telecommunication systems. Maintain a clear separation of 2' minimum between these duct bank surfaces. Use manufactured concrete or plastic spacers to ensure required concrete coverage. Conduit spacer shall be so installed as to be self-supporting and shall transmit no vertical load to any conduit. Concrete shall be 4500 psi. Non-metallic feeder conduits installed underground shall be encased in a steel reinforced concrete envelope. Refer to drawings for locations and reinforced duct bank details.
 3. Concrete for conduits and duct banks containing high-voltage cables (above 600 volts line-to-line) shall have "red oxide" added to the wet concrete mix to provide a distinctive red color to the entire concrete envelope. Red oxide shall be added to the mix in the proportion of 14 pounds of red oxide per yard load. Because of the different natural colors of cements, the particular cement used in the concrete mix may produce in some cases an unsatisfactory pale color when applying the recommended proportion of the red oxide. Contractor shall instruct the provider of the concrete to check the color before shipment and to add more red oxide if necessary. Concrete color is subject to approval by University's Representative.
 4. After concrete duct bank is installed, backfill the trench with cement slurry. The slurry backfill in a planter area shall not reach the upper 12". This portion of the trench shall be filled with soil suitable for landscape.
- B. Underground duct banks shall have a continuous slope downward toward manholes and away from buildings with a pitch of not less than 4" in 100'. Changes in direction of runs exceeding a total of 10°, either vertical or horizontal, shall be accomplished by long sweep bends having a minimum radius of curvature of 25', except that manufactured bends may be used at ends of short runs of 100' or less, and then only at or close to the end of run. A minimum clearance of 6" shall be maintained when crossing existing utilities and a minimum of 12" when paralleling existing utilities, and 60 inches at steam lines.

3.3 INSTALLATION OF BOXES AND ENCLOSURES

- A. Provide all boxes necessary for installation of the electrical Work in compliance with CEC requirements. Coordinate access with accessible ceiling panels locations, as necessary.
- B. Secure recessed boxes for ceiling outlets with galvanized steel bar hangers, specifically manufactured for the purpose, to ceiling channels to permit the installation of the box.
- C. Single gang wall outlet boxes located at metal studs shall be screwed to the stud with sheet metal screws.
- D. Single or multiple wall outlet boxes located between studs shall be secured in place to bar hangers between studs.
- E. Locate Hubbell Advantage NSAV62M, or equal, adjacent to each lab entrance door on the interior of the laboratory for future OFOI Ambient and Occupancy sensor.
- F. Nails shall not be used to support outlet boxes.
- G. Secure recessed, pressed steel boxes in place with steel hangers specifically manufactured for the purpose. Fully or partially hammer driven screws are not permitted.
- H. Use extension rings with blank covers for making exposed conduit connections to flush wall or ceiling boxes.
- I. For boxes not specified or indicated, use boxes and mounting height as required by equipment and recommended by equipment manufacturer.
- J. For outlets flush in exterior walls, use weatherproof joints and connections all around. Outlets shall have cast covers and be fitted with gaskets.
- K. Do not locate outlet boxes not containing a circuit device in any public space. Place these boxes in storage rooms, electrical closets, or above accessible ceilings.
- L. Place boxes which must be exposed to public view in a location approved by University's Representative. Provide covers or plates to match adjacent surfaces as approved by University's Representative.
- M. Covers for flush outlets shall finish flush with plaster or other finished surface.
- N. Where both emergency and normal circuits feed a single light fixture, provide an outlet box for each system.
- O. For boxes installed in concrete, provide the type specifically designed for the purpose to prevent entrance of concrete and to permit placement of box and conduit without displacing reinforcing steel.
- P. Use boxes sized to legally accommodate all devices and conductors contained therein. Use no box smaller than 4-inch square by 2-1/8 inches deep, unless otherwise indicated.

- Q. Securely fasten all outlet boxes to the structural members. In concrete or drywall construction, set recessed boxes so that the front of the plaster ring or front of the box for those without plaster rings is not more than 1/4 inch behind the final finished surface. Set all recessed boxes in other types of construction so that the fronts are flush with the finished surface. Where these settings are not achieved, provide a 24-gauge or heavier galvanized steel liner flush with finished surface.
- R. Provide UL approved factory-made knockout seals in the boxes where unused knockouts are not intact. Provide recessed threaded plugs in all unused hubs of cast boxes.
- S. Label the cover of each accessible junction box with panel and circuit designation and function, per specification Section 26 0553, Identification for Electrical Systems.
- T. Multiple gang boxes containing switches on different circuits shall have barrier between such switches.
- U. Paint the outside and inside of all boxes containing fire alarm devices with red paint.
- V. Where boxes are mounted back-to-back in any wall, the minimum offset shall be 24", edge-to-edge in fire rated walls, and minimum 16" with a stud in-between, in non-rated walls.
- W. Provide acoustic pads around all outlet boxes and switches located in walls, and furring's, and fire rated pads in new fire rated construction.
- X. Provide and maintain sufficient access and working space to permit access and safe maintenance to all boxes.
- Y. Paint panel and circuit number of all branch circuit wiring contained within box on the back inside surface of box.
- Z. Each box shall have a device plate or blank coverplate, as applicable.
- AA. Pullboxes shall be installed in all conduit runs wherever indicated, and where necessary to facilitate the pulling of wires and cables. Coordinate access with accessible ceiling panel locations, as necessary.
- BB. Securely fasten to structural members or channel supports, per Applicable Code Requirements.
- CC. Do not install pullboxes in public areas unless specifically indicated on Drawings.
- DD. Install sheet metal pullboxes in dry protected locations.
- EE. Provide access panels for pull boxes located above ceilings.
- FF. Install cast iron pullboxes in wet and damp locations. Boxes shall be flush with grade or above roof slab.
- GG. Provide tight fitting bore or punch holes, through which rigid conduit shall be secured to boxes with a double lock nut and bushing.

- HH. Provide nameplates on covers of interior wireways and pullboxes, describing system and function. Tag all conductors to identify circuits and origin, per specification Section 26 0553, Identification for Electrical Systems.

3.4 INSTALLATION OF CABINETS

- A. Securely fasten to structural members or channel supports.
- B. Provide nameplates in accordance with Section 26 0553, Identification for Electrical Systems.
- C. In cabinets for spare fuses, furnish one (1) set of three (3) spare fuses of each rating installed. Coordinate location of cabinets with University's Representative.

3.5 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install precast pullboxes of sizes required on the Drawings.
- B. Place duct and conduit entries 6" above floor of hand holes. Provide end bells in all duct entrances. Terminate each metal conduit with insulated bushing having grounding terminal.
- C. Place pulling irons on opposite walls and below horizontal centerlines of ducts and bricked-up openings, and in bottom. Install pulling irons with each end hooked around a reinforcing bar.
- D. Dampproof exterior walls and tops of below-grade pullboxes with two (2) coats of dampproofing material.
- E. Install a floor drain into a sump containing two cubic yards of crushed rock, minimum size 48" deep and 36" diameter. Provide 36" length of 10" diameter tile pipe extending down into the sump. Provide a grille over the top opening of pipe.
- F. Provide a 6" deep sand base under each pullbox.
- G. Identify all power and signal cables by tagging in all pullboxes. Tie securely to cables with nylon cord or insulated type TW wire. Tie so turns of wires do not form a closed electrical circuit.
- H. Install firestopping at penetrations of fire-rated floor and wall assemblies. Coordinate installation requirements with University's Representative.

END OF SECTION

SECTION 26 05 44 - SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sleeves for raceway and cable penetration of non-fire-rated construction walls and floors.
2. Sleeve-seal systems.
3. Sleeve-seal fittings.
4. Grout.
5. Silicone sealants.

1.2 SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 SLEEVES

A. Wall sleeves.

1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, plain ends.
2. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.

B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies: Galvanized-steel sheet; 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

C. Sleeves for Rectangular Openings:

1. Material: Galvanized sheet steel.
2. Minimum Metal Thickness:
 - a. For sleeve cross-section rectangle perimeter less than 50 inches and with no side larger than 16 inches, thickness shall be 0.052 inch.

- b. For sleeve cross-section rectangle perimeter 50 inches or more and one or more sides larger than 16 inches, thickness shall be 0.138 inch.

2.2 SLEEVE-SEAL SYSTEMS

- A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Advance Products & Systems, Inc.
 - b. CALPICO, Inc.
 - c. Metraflex Company (The).
 - d. Pipeline Seal and Insulator, Inc.
 - e. Or equal
 - 2. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
 - 3. Pressure Plates: Carbon steel.
 - 4. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

2.3 SLEEVE-SEAL FITTINGS

- A. Description: Manufactured plastic, sleeve-type, waterstop assembly made for embedding in concrete slab or wall. Unit shall have plastic or rubber waterstop collar with center opening to match piping OD.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advance Products & Systems, Inc.
 - b. CALPICO, Inc.
 - c. Metraflex Company (The).
 - d. Pipeline Seal and Insulator, Inc.
 - e. Or equal.

2.4 GROUT

- A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.
- B. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- C. Design Mix: 5000-psi, 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

2.5 SILICONE SEALANTS

- A. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below.
- B. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces that are not fire rated.

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

- A. Comply with NECA 1.
- B. Comply with NEMA VE 2 for cable tray and cable penetrations.
- C. Sleeves for Conduits Penetrating Above-Grade Non-Fire-Rated Concrete and Masonry-Unit Floors and Walls:
 - 1. Interior Penetrations of Non-Fire-Rated Walls and Floors:
 - a. Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.
 - b. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall, so no voids remain. Tool exposed surfaces smooth; protect material while curing.
 - 2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
 - 3. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable unless sleeve seal is to be installed or unless seismic criteria require different clearance.
 - 4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
 - 5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inches above finished floor level. Install sleeves during erection of floors.
- D. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
 2. Seal space outside of sleeves with approved joint compound for gypsum board assemblies.
- E. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- F. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.2 SLEEVE-SEAL-SYSTEM INSTALLATION

- A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at raceway entries into building.
- B. Install type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.3 SLEEVE-SEAL-FITTING INSTALLATION

- A. Install sleeve-seal fittings in new walls and slabs as they are constructed.
- B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.
- C. Secure nailing flanges to concrete forms.
- D. Using grout, seal the space around outside of sleeve-seal fittings.

END OF SECTION

SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification for conductors.
 - 3. Warning labels and signs.
 - 4. Instruction signs.
 - 5. Equipment identification labels.
 - 6. Miscellaneous identification products.

1.2 ACTION SUBMITTALS

- A. Product Data: For each electrical identification product indicated.
- B. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.3 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.
- B. Comply with CEC.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.4 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by 29 CFR 1910.145. Use consistent designations throughout Project.

- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 RACEWAY IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Colors for Printed Legend:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.
- C. Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing ends of legend label.
- D. Snap-Around Labels for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.2 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.
- B. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equal process.
- C. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking nylon tie fastener.

2.3 WARNING LABELS AND SIGNS

- A. Comply with CEC and 29 CFR 1910.145.
- B. Baked-Enamel Warning Signs:
 - 1. Preprinted aluminum signs punched or drilled for fasteners, with colors, legend, and size required for application.
 - 2. 1/4-inch grommets in corners for mounting.

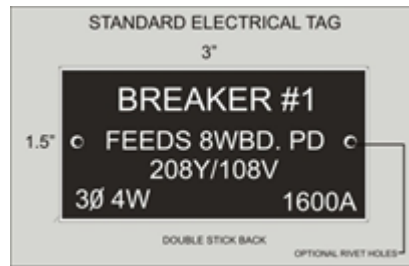
Nominal size, 7 by 10 inches.
- C. Warning label and sign shall include, but are not limited to, the following legends:
 - 1. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

2.4 INSTRUCTION SIGNS

- A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch thick for signs up to 20 sq. inches and 1/8-inch-thick for larger sizes.
 - 1. Engraved legend with black letters on white face.
 - 2. Punched or drilled for mechanical fasteners.
 - 3. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.5 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved, Laminated Acrylic Label: Punched or drilled for screw mounting. Normal power shall be white letters engraved in a black background. Emergency power shall be white letters engraved in a red background. Dimensions shall be 3" wide by 1.5" tall. Line 1: Minimum letter height shall be 1/4 inch. Lines 2 thru 4 minimum letter height shall be 3/16 inch.
- B. Fabricated Nameplates Shall Clearly State the Following:
 - 1. Manufacturer's name and equipment design ratings including current, voltage, KVA, HP, bus bracing rating or as applicable.
 - 2. System usage and purpose, system nominal voltage, equipment rating KVA, amperes, HP and RPM as applicable. Designation data per Drawings or supplied with shop drawings.
 - 3. Panel designation, voltage, 3 or 4 wire, single or three phase, panel source name and location of panel source. Example:



- C. Manufacturer's Device Nameplates: Device usage, purpose, or circuit number; manufacturer and electrical characteristic ratings including the following:
1. Circuit Breakers: Voltage, continuous current, maximum interrupting current and trip current.
 2. Switches: Voltage, continuous current, horsepower or maximum current switching. If fused, include nameplate stating, "Fuses must be replaced with current limiting type of identical characteristics."
 3. Contactors: Voltage, continuous current, horsepower or interrupting current, and whether "mechanically held" or "electrically held."
 4. Controllers: Voltage, current, horsepower and trip setting of motor running overcurrent protection.

2.6 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Cable Ties: Fungus-inert, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties.
1. Minimum Width: 3/16 inch.
 2. Tensile Strength: 50lb, minimum
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black, except where used for color coding.
- B. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).
- C. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach signs and plastic labels that are not self-adhesive type with screws and auxiliary hardware appropriate to the location and substrate.
- F. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- G. Color Coding for Phase and Voltage Level Identification, 600V and Less:
 - 1. Colors for 208/120V circuits;
 - a. Phase A: Black
 - b. Phase B: Red
 - c. Phase C: Blue
 - d. Neutral: White
 - e. Ground: Green
 - f. Switch legs same color as phase leg.
 - g. Three-way travelers: Orange.
- H. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.
- I. Painted Identification: Comply with requirements in painting Sections for surface preparation and paint application.

3.2 IDENTIFICATION SCHEDULE

- A. Accessible Raceways and Cables of Auxiliary Systems: Identify the following systems with color-coded, self-adhesive vinyl tape applied in bands:
 - 1. Telecommunication System: Green and yellow.
 - 2. Control Wiring: Green and red.
- B. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape. Identify source and circuit number of each set of conductors. For single conductor cables, identify phase in addition to the above.
- C. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape. Identify each ungrounded conductor according to source and circuit number.
- D. Conductors to Be Extended in the Future: Attach marker tape to conductors and list source and circuit number.
- E. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 - 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.
- F. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Baked-enamel warning signs.
 - 1. Comply with 29 CFR 1910.145.
 - 2. Identify system voltage with black letters on an orange background.
 - 3. Apply to exterior of door, cover, or other access.
 - 4. For equipment with multiple power or control sources, apply to door or cover of equipment.

5. For equipment requiring workspace clearance according to CEC, apply to door or cover of equipment but not on flush panelboards and similar equipment in finished spaces.
- G. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- H. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch high letters for emergency instructions at equipment used for power transfer.
- I. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
 1. Labeling Instructions:
 - a. Indoor Equipment: Screwed-on engraved white laminated plastic sheet with minimum 3/8 inch to 3/4 inch black lettering for normal systems and red laminated plastic sheet with lettering for emergency systems.
 - b. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
 2. Equipment to Be Labeled:
 - a. Identification labeling of some items listed below may be required by individual Sections or by CEC.
 - b. Panelboards, electrical cabinets, and enclosures.
 - c. Access doors and panels for concealed electrical items.
 - d. Enclosed switches.
 - e. Enclosed circuit breakers.
 - f. Enclosed controllers.
 - g. Push-button stations.
 - h. Remote-controlled switches, and control devices.

- J. Devices: Engrave on each device plate with 3/16" high block letters filled with black enamel where noted and as follows:
1. Lock switch and switch with pilot light – device controlled.
 2. All receptacles and switches – panel and circuit number reflecting installed condition.
 3. All equipment on the normal and emergency systems – panel and circuit number reflecting installed condition.
 4. Receptacles 208V and above – voltage and ampere rating.
 5. Where wording is not indicated, allow for ten letters per device and use wording as approved.
 6. For switch cabinets engrave each device or furnish engraved nameplate.

END OF SECTION

SECTION 32 17 23 - GARAGE PAVEMENT MARKINGS

PART 1 – GENERAL

1.1 SCOPE

- A. All labor, equipment and services to paint the following items of types, patterns, sizes, and colors as shown on Drawings.
 - 1. Parking Stripes
 - 2. Traffic Arrows
 - 3. Miscellaneous pavement markings such as accessible and EVC emblems, stop bars, end treatments, crosshatching, access paths, curbs and any other items on the detail sheets.
 - 4. The vertical face of all curbs shall be painted yellow and continuing to a 6-inch distance on the horizontal face.

1.2 QUALITY ASSURANCE

- A. Pavement Marking The Contractor shall verify compatibility with sealers, joint sealants, caulking and all other surface treatments prior to beginning work.
- B. All floor areas that paint is to be applied to shall be power washed, thoroughly broom cleaned, and all debris cleared prior to application. All tire and scuff marks shall be removed prior to application.
- C. Pavement Marking The Contractor must provide paint specifications data if product is not pre-approved indicating:
 - 1. Intended use of paint.
 - 2. Pigment type and content.
 - 3. Acceptance dates must comply with relevant codes or authorities, such as ANSI/NFPA 70 or per CBC. Use “per Applicable Code Requirements” if necessary.
- D. Pavement Marking The Contractor shall provide certification that paint supplied meets or exceeds Requirements of PART 2, 2.1, A below.
- E. If material has not been pre-approved, furnish a list of similar projects (minimum of 5) where paint has been in use for period of not less than two years.
- F. Guarantee all materials and workmanship for the pavement markings furnished for a period of one (1) year after the final acceptance of the project. If during the guarantee period any defects, faulty material or workmanship are found, the Contractor shall immediately, upon notification by the University, proceed at his own expense, to rectify and restore.

Refer to Section 01 78 00, CLOSE-OUT SUBMITTALS, for the submittal form.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Paint shall be manufactured and formulated from first grade raw materials and shall be free from defects or imperfections that might adversely affect serviceability of

- product. Product shall be applied according to manufacturer's requirements and shall not be thinned down without University's prior approval and any thinning products used shall meet paint manufacture's approval.
- B. Color of paint for parking stripes and traffic arrows shall be yellow unless noted otherwise. Handicap symbols, fuel efficient symbols, and EV charging station symbols shall be per state and federal standards.
- C. The following products have been pre-approved for this project:
1. "White B97WD2434 / 650327182 PRO PARK Waterborne Traffic Marking Paint" Sherwin -Williams Corporation, or equal.
Address: 101 Prospect Avenue N.W., Cleveland, OH 44115,
Phone: (800) 321-8194.
 2. "Yellow B97YD2467 / 650327208 PRO PARK Waterborne Traffic Marking Paint" Sherwin -Williams Corporation, or equal.
Address: 101 Prospect Avenue N.W., Cleveland, OH 44115,
Phone: (800) 321-8194.
 3. "Firelane Red B97RD2012 / 650327224 PRO PARK Waterborne Traffic Marking Paint" Sherwin -Williams Corporation, or equal.
Address: 101 Prospect Avenue N.W., Cleveland, OH 44115,
Phone: (800) 321-8194.
 4. "Blue B97LD2022 / 650327240 PRO PARK Waterborne Traffic Marking Paint" Sherwin -Williams Corporation, or equal.
Address: 101 Prospect Avenue N.W., Cleveland, OH 44115,
Phone: (800) 321-8194.
 5. "Black B97BD2021 / 650327307 PRO PARK Waterborne Traffic Marking Paint" Sherwin -Williams Corporation, or equal.
Address: 101 Prospect Avenue N.W., Cleveland, OH 44115,
Phone: (800) 321-8194.

2.2 ADDITIVES

1. Silica sand – shall be used on all pavement marking surface areas larger than 4" in width. It shall be cleaned (for adding texture and reducing slippage). Silica sand shall be clean sand intended for mixing with paint. Beach sand or sand that has not been cleaned is not to be used. A ratio of four-parts paint to one-part sand of paint shall be used to create a textured surfaced that will reduce the possibility of slipping.

PART 3 – EXECUTION

3.1 APPLICATION

- A. Paints shall be applied by brush, spray, flow methods to clean and dry surfaces with surface to be painted and ambient air temperature of 50 degrees F or above, not exceeding manufacture's maximum recommended temperature and humidity.
1. Paint shall have net film thickness of 0.015 inches.
 2. Paint shall be applied no sooner than 14 days after seal coat or traffic topping has been applied and fully cured. The Contractor to follow manufacturer's requirements.
 3. Paint shall be applied in two (2) coats minimum.

3. Paint shall be applied in two (2) coats minimum.
4. Paint shall be applied as shown on drawings.
5. In locations where there are painted floor areas larger than 4" in width, silica sand should be used. The paint/sand mix should be applied and allowed to dry. After the paint/sand mix has dried another coat of paint (without sand) is to be applied.

B. The Contractor shall layout and report discrepancies before any paint is applied.

3.2 CLEANUP

- A. Upon completion of work, remove excess paint, stain, varnish, adhesive, caulk, etc. from all other surfaces that were not specified to receive same.
- B. Equipment Cleanup – Whenever possible, clean up shall be conducted with water or water-based agents. Mineral based thinners or solvents should only be used on an as needed basis after non-water-based applications.

3.3 WASTE MANAGEMENT

- A. Conform with Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT
- B. Separate waste in accordance with the Waste Management Plan. Set aside extra paint for future color matches or reuse by the University. Collect all waste paint by type and furnish for delivery to recycling or collection facility.
- C. Close and seal tightly all partly used paint and finish containers and store protected in well-ventilated, fire-safe area at moderate temperature.
- D. Fully dry paint residues from latex paint may be disposed of in landfill.
- E. Place empty containers of solvent based paints in areas designated for hazardous materials.
- F. Do not dispose of paints or solvents by pouring on the ground. Place in designated containers for proper disposal.

END OF SECTION 32 17 23

LIST OF DRAWINGS

SHEET NO.	TITLE	SHEET DATE
KP MP, K8 STR1, K7 STEAIN AND LUSKIN CONF SKIDATA PAY MACHINES INSTALLATION		
PK0.00	COVER SHEET	6/3/2024
PK0.01 - BP.1	UCLA BUILDING PERMIT	6/3/2024
PK0.02	SHEET INDEX & GENERAL NOTES	6/3/2024
PK0.10	K9 MP LEVEL B1 - PHASING PLAN	6/3/2024
PK1.00	K9 MP LEVEL B1 - OVERALL - EXISTING PARKING PLAN	6/3/2024
PK1.01	K9 MP LEVEL B1 - DEMOLITION PARKING PLAN	6/3/2024
PK1.02	K9 MP LEVEL B1 - ENLARGED DEMOLITION PLAN	6/3/2024
PK1.03	K9 MP LEVEL B1 - RENOVATION PARKING PLAN	6/3/2024
PK1.04	K9 MP LEVEL B1 - ENLARGED RENOVATION PLAN	6/3/2024
PK1.08	K9 MP LEVEL B2 - OVERALL PARKING PLAN	6/3/2024
PK1.09	K9 MP LEVEL B2 - ENLARGED - DEMO / RENO - PLAN	6/3/2024
PK1.10	K8 STR LEVEL 1- OVERALL PARKING PLAN	6/3/2024
PK1.11	K8 STR1 LEVEL 1 - ENLARGED DEMO / RENOVATION	6/3/2024
PK1.12	K8 STR1 LEVEL 1 - DEMOLITION KIOSK	6/3/2024
PK1.15	STEIN LEVEL 1 - OVERALL PARKING PLAN	6/3/2024
PK1.16	STEIN LEVEL 1 - ENLARGED DEMO / RENO PLAN	6/3/2024
PK1.17	LUSKIN CONF LEVEL P - OVERALL - PARKING PLAN	6/3/2024
PK1.18	LUSKIN CONF LEVEL P - ENLARGED DEMO / RENOVATION PLAN	6/3/2024
PK5.01	STRIPING & PAVING DETAILS	6/3/2024
PK5.02	FLOOR PAINTED ARROWS & GRAPHICS DETAILS	6/3/2024
PK7.01	TYPICAL DETAILS	6/3/2024
PK8.01	MP ENLARGED PARKING CONTROL LANES	6/3/2024
PK5.01	STRIPING & PAVING DETAILS	6/3/2024
PK5.02	FLOOR PAINTED ARROWS & GRAPHICS DETAILS	6/3/2024
PK7.01	TYPICAL DETAILS	6/3/2024
PK8.01	MP ENLARGED PARKING CONTROL LANES	6/3/2024
PK8.02	PARKING CONTROL LANES SKIDATA	6/3/2024
PK8.03	AUTOMATED PAYMENT MACHINE SKIDATA	6/3/2024
PK8.04	SKIDATA - LPR - CAMERAS - LOCATIONS	6/3/2024
PK8.05	SKIDATA - EQUIPMENT	6/3/2024
PK9.01	K9 MP WAYFINDING SCHEDULE	6/3/2024
PK9.02	K9 MP - LEVEL B1 - WAYFINDING GRAPHICS PLAN	6/3/2024
PK9.03	K9 LEVEL B1 - WAYFINDING GRAPHICS PLAN	6/3/2024
PK9.04	K9 MP - SIGN FACE DETAILS	6/3/2024
PK9.05	K9 MP - SIGN FACE DETAILS	6/3/2024
PK9.06	K9 MP - SIGN FACE DETAILS	6/3/2024
PK9.07	K9 MP - SIGN MOUNTING DETAILS	6/3/2024
S001	GENERAL NOTES	6/3/2024
S002	ABBREVIATIONS	6/3/2024
S101	TYP MECHANICAL DETAILS ON STEEL	6/3/2024
E1.00	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS	6/3/2024
E2.00	EXISTING - K8 STR 1 - SINGLE LINE DIAGRAM	6/3/2024
E2.01	EXISTING - LUSKIN CONF - SINGLE LINE DIAGRAM	6/3/2024
E2.02	EXISTING - K9PM - SINGLE LINE DIAGRAMS	6/3/2024
E2.10	PANEL SCHEDULES	6/3/2024
E2.11	PANEL SCHEDULES	6/3/2024
E2.12	PANEL SCHEDULES	6/3/2024
E3.00	K9 MP - LEVEL B1 - ELECTRICAL - SITE PLAN	6/3/2024
E3.01	K9 MP - LEVEL B1 - ELECTRICAL - PARTIAL OVERALL PLAN	6/3/2024
E3.02A	K9 MP - LEVEL B1 - ELECTRICAL - ENLARGED DEMOLITION PLAN	6/3/2024
E3.02B	K9 MP - LEVEL B1 - ELECTRICAL - ENLARGED RENOVATION PLAN	6/3/2024
E3.03	K9 MP - LEVEL B1 - ELECTRICAL - ENLARGED DEMO AND RENOVATION POWER PLANS	6/3/2024
E3.04	K9 MP - LEVEL B1 - ELECTRICAL - ENLARGED POWER PLANS	6/3/2024
E3.05	K9 MP - LEVEL B1 - ELECTRICAL - ENLARGED POWER PLANS	6/3/2024
E3.06	K9 MP - LEVEL B2 - ELECTRICAL - OVERALL PLAN	6/3/2024
E3.07	K9 MP - LEVEL B2 - ELECTRICAL - ENLARGED POWER PLANS	6/3/2024
E3.08	K9 MP - LEVEL B2 - ELECTRICAL - ENLARGED POWER PLANS	6/3/2024
E3.09	K8 STR1 - LEVEL 1 - ELECTRICAL - SITE PLAN	6/3/2024

E3.10	K8 STR1 - LEVEL 1 - ELECTRICAL - ENLARGED POWER PLANS	6/3/2024
E3.11	K7 STEIN - GROUND LEVEL - ELECTRICAL - SITE PLAN	6/3/2024
E3.12	K7 STEIN - GROUND LEVEL - ELECTRICAL - ENLARGED PLANS	6/3/2024
E3.13A	K7 STEIN - GROUND LEVEL - ELECTRICAL - ENLARGED DEMO PLAN	6/3/2024
E3.13B	K7 STEIN - GROUND LEVEL - ELECTRICAL - ENLARGED RENOVATION PLAN	6/3/2024
E3.14	LUSKIN CONF - LEVEL P - ELECTRICAL - SITE PLAN	6/3/2024
E3.15	LUSKIN CONF - LEVEL P - ELECTRICAL - ENLARGED PLANS	6/3/2024
E4.01	REPLACEMENT OF SWITCHES MATRIX	6/3/2024
E6.00	ELECTRICAL DETAILS	6/3/2024
E6.01	ELECTRICAL DETAILS	6/3/2024
M0.01	MECHANICAL COVER SHEET	6/3/2024
M1.00	K9 MP - LEVEL B1 - MECHANICAL - OVERALL PLAN	6/3/2024
M1.01	K9 MP - LEVEL B1 - MECHANICAL - ENLARGED DEMOLITION PLAN	6/3/2024
M1.02	K9 MP - LEVEL B2 - MECHANICAL - OVERALL PLAN	6/3/2024
M1.03	K9 MP - LEVEL B2 - MECHANICAL - ENLARGED DEMOLITION PLAN	6/3/2024
M1.04	K8 STR1 - LEVEL 1 - MECHANICAL - SITE PLAN	6/3/2024
M1.05	K8 STR1 - LEVEL 1 - MECHANICAL - ENLARGED DEMOLITION PLAN	6/3/2024
M1.06	K7 STEIN - GROUND LEVEL - MECHANICAL - SITE PLAN	6/3/2024
M1.07	K7 STEIN - GROUND LEVEL - MECHANICAL - ENLARGED DEMOLITION PLAN	6/3/2024
PK0.00	COVER SHEET	4/30/2024
PK0.01	SHEET INDEX & GENERAL NOTES	4/30/2024
PK1.13	REAGAN - LEVEL P - PARKING PLAN	4/30/2024
PK1.14	REAGAN - LEVEL P - PARKING PLAN	4/30/2024
PK8.02	PARKING CONTROL LANES SKIDATA	4/30/2024
PK8.03	AUTOMATED PAYMENT MACHINE SKIDATA	4/30/2024
PK8.04	SKIDATA - LPR - CAMERAS	4/30/2024
E1.00	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS	4/30/2024
E2.00	EXISTING RONALD BUILDING SINGLE LINE DIAGRAMS	4/30/2024
E2.01	PANEL SCHEDULES	4/30/2024
E3.11	REAGAN LEVEL P - SITE ELECTRICAL PLAN	4/30/2024
E3.12A	REAGAN LEVEL P - ENLARGED POWER PLANS	4/30/2024
E3.12B	REAGAN LEVEL P - ENLARGED POWER PLANS	4/30/2024
E6.0	ELECTRICAL DETAILS	4/30/2024
S001	GENERAL NOTES	4/30/2024
S002	ABBREVIATIONS	4/30/2024
S101	TYP MECHANICAL DETAILS ON STEEL	4/30/2024
12127 RONALD REAGAN UCLA MEDICAL CENTER PARKING SERVICES - SKIDATA PAY MACHINES INSTALLATION		
PK0.00	COVER SHEET	4/30/2024
PK0.02	SHEET INDEX & GENERAL NOTES	4/30/2024
PK1.13	REAGAN - LEVEL P - PARKING PLAN	4/30/2024
PK1.14	REAGAN - LEVEL P - PARKING PLAN	4/30/2024
PK8.02	PARKING CONTROL LANES SKIDATA	4/30/2024
PK8.03	AUTOMATED PAYMENT MACHINE SKIDATA	4/30/2024
PK8.04	SKIDATA - LPR - CAMERAS	4/30/2024
E1.00	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS	4/30/2024
E2.00	EXISTING RONALD BUILDING - SINGLE LINE DIAGRAM	4/30/2024
E2.01	PANEL SCHEDULES	4/30/2024
E3.11	REAGAN LEVEL P - SITE ELECTRICAL PLANS	4/30/2024
E3.12A	REAGAN LEVEL P - ENLARGED POWER PLANS	4/30/2024
E3.12B	REAGAN LEVEL P - ENLARGED POWER PLANS	4/30/2024
E6.0	ELECTRICAL DETAILS	4/30/2024
S001	GENERAL NOTES	4/30/2024
S002	ABBREVIATIONS	4/30/2024
S101	TYP MECHANICAL DETAILS ON STEEL	4/30/2024

END OF LIST OF DRAWINGS