Project Name: UNIVERSITY OF CALIFORNIA, MERCED

**COB ROOMS 110 & 114 RENOVATIONS** 

**Project No.:** 907015

#### ADDENDUM NO. 2

to the

#### CONTRACT DOCUMENTS

#### August 16, 2012

I. Bidder acknowledges that it is the Bidder's responsibility to ascertain whether any Addenda have been issued and if so, to obtain copies of such Addenda. Bidder therefore agrees to be bound by all Addenda that have been issued for this bid.

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents. The following changes, additions, or deletions shall be made to the following documents as indicated and all other Contract Documents shall remain the same.

II. BIDDING/CONTRACT DOCUMENTS AND DIVISION 1 SPECIFICATIONS – VOLUME 1

#### A. BID FORM

- 1. Replace Bid Form with bid form attached to this Addenda
- III. CLARIFICATIONS
  - A. PRE-BID QUESTIONS

**NONE** 

- IV. SPECIFICATIONS
  - A. ADD THE FOLLOWING SPECIFICATION SECTION
    - 1. SECTION 21 13 13 SPRINKLER SYSTEM, FIRE PROTECTION
  - B. REVISE THE FOLLOWING SPECIFICATION SECTION
    - 1. SECTION 01 23 00 ALTERNATES
      - 1.2 DESCRIPTION OF ALTERNATES
      - A. (ADD#2)Additive Alternate No. 1: Provide an alternate acoustical wall panel layout as shown on drawing Sheet A-272(a). DELETE work shown on drawing Sheet A-272 for this bid alternate pricing. (To price this bid alternate, deduct the cost for work shown on drawing Sheet A-272 from the cost of work shown on drawing Sheet A-272(a). (ADD#2)

- 2. Specification Section 26 51 00 Interior Lighting
- V. DRAWING SHEETS Replace the following sheets with the drawings attached to this Addenda.

#### A. RE-ISSUE THE FOLLOWING DRAWING SHEETS

See drawings for clouded and called out Addendum #2 changes.

- 1. A-071, COVER SHEET SYMBOLS NOTES AND SCHEDULE
- 2. A-171, EXISTING FLOOR PLANS & REFLECTED CEILING PLANS
- 3. A-172, EXISTING INTERIOR ELEVATIONS
- 4. A-271, NEW FLOOR PLANS & REFLECTED CEILING PLANS
- 5. A-272, NEW INTERIOR ELEVATIONS
- 6. A-272(a), NEW INTERIOR ELEVATIONS (BID ALTERNATE)
- 7. A-571, CLASSROOM REMODEL DETAILS

#### UNIVERSITY OF CALIFORNIA, MERCED

By:	University of California, Merced	
	University's Representative	
	Wenbo Yuan	<del></del>
	Sr. Project Director	
		End of Addendum No. 2

ADDENDUM NO. 2

## CONSTRUCTION DOCUMENTS TABLE OF CONTENTS

#### Volume 1

Cover Page

Certification

Construction Documents Table of Contents

Advertisement for Bids

Project Directory

Instructions to Bidders

Supplementary Instructions to Bidders

Information Available to Bidders

Geotechnical Report

Bid Form - ADDENDUM 2

Bid Bond

Agreement

**General Conditions** 

**Supplementary Conditions** 

**Exhibits** 

**Division 1 Specifications** 

Division 2 Technical Specifications

Drawings (Under Separate Cover) – ADDENDUM 2

#### **Division 1 Specifications**

Section	01 11 00	Summary of Work
	01 21 00	Allowances
	01 22 00	Unit Prices
	01 23 00	Alternates - ADDENDUM 2
	01 25 00	Product Options and Substitutions
	01 26 13	Requests For Information
	01 31 00	Project Coordination
	01 31 19	Project Meetings
	01 31 42	Contractor Schedules
	01 31 45	Contract Schedules
	01 33 23	Shop Drawings, Product Data and Samples
	01 35 00	Special Requirements
	01 35 40	Environmental Mitigation
	01 35 43	Hazardous Materials Procedures
	01 41 00	Regulatory Requirements
	01 42 13	Abbreviation, Symbols, & Definitions
	01 43 39	Mockups (NOT USED)
	01 43 40	Exterior Enclosure Performance Requirements (NOT USED)
	01 45 00	Quality Control
	01 51 00	Temporary Utilities
	01 56 00	Temporary Barriers and Enclosures
	01 56 39	Tree and Plant Protection

May 7, 2012 Revision: 1

01 57 23	Storm Water Pollution Prevention (As Applies)
01 60 00	Product Requirements
01 71 23	Field Engineering
01 73 23	Supporting from Building Structure
01 73 29	Cutting, Patching, and Matching
01 73 35	Selective Demolition
01 74 19	Site Waste Management Program
01 77 00	Closeout Procedures, Final Cleaning, and Extra Materials
01 78 36	Guarantees, Warranties, Bonds, Service & Maintenance Contracts
01 78 39	Project As-Built Documents
01 79 00	Training
01 81 13	LEED <sup>TM</sup> Requirements (NOT USED)
01 81 13.1	LEED Requirements Score Card (NOT USED)
01 91 00	Commissioning
01 92 00	Operating and Maintenance

#### **List of Drawings**

ADDENDUM 2 Revised List

#### **VOLUME 1**

#### **DIVISIONS 02 – 33 TECHNICAL SPECIFICATIONS**

#### **Division 2 EXISTING CONDITIONS**

Section 02 41 00 Demolition

#### **DIVISION 05 METALS**

Section 05 5000 Metal Fabrications

#### **DIVISION 07 THERMAL AND MOISTURE PROTECTION**

Section 07 92 00 Joint Sealants

#### **DIVISION 09 FINISHES**

Section	09 51 13	Acoustical Panel Ceiling
	09 68 13	Tile Carpeting
	09 84 13	Fixed Sound-Absorptive Panels
	09 91 00	Painting

#### **DIVISION 12 FURNISHINGS**

Section 12 48 23 Furnishings-Entrance Floor Grids

#### **DIVISION 21 FIRE PROTECTION**

May 7, 2012 Revision: 1

Section 21 13 13 Sprinkler System, Fire Protection – ADDENDUM 2

#### DIVISION 23 HEATING VENTILATING AND AIR CONDITIONING (HVAC)

Section 23 10 50 Low and Medium Pressure Ductwork

End of Volume 1

May 7, 2012 Revision: 1

#### **BID FORM**

PROJECT NO.: 907015

FOR: PROJECT NO. 907015

## CLASSROOM & OFFICE BUILDING ROOMS 110 & 114 RENOVATIONS

UNIVERSITY OF CALIFORNIA MERCED CAMPUS, MERCED COUNTY MERCED CALIFORNIA

**BID TO:** PHYSICAL PLANNING, DESIGN & CONSTRUCTION

UNIVERSITY OF CALIFORNIA, MERCED 767 E. YOSEMITE AVE., SUITE C MERCED CALIFORNIA 95340 TELEPHONE: (209) 228-4479

**FOR THE** ALL WORK AND ASSOCIATED REQUIREMENTS DEFINED IN THE PROJECT DOCUMENTS AND SECTION 01 11 00 -

**WORK:** SUMMARY OF WORK.

BID FROM:	(Name of Fire	n Submitting Bid)				
	(Name of Fin	ii Subilitting Diu)				
-	(A	ddress)				
-	(City)	(State)	(Zip Code)			
_	(Telephone Number)		(Fax Number)			
	(Date Bio	l 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.

June 6, 2011Bid FormRevision: 4ADDENDUM 201011.01LF: BID-FORMPage 1 of 7

#### 1. 0 BIDDER'S REPRESENTATIONS

Bidder, represents that a) Bidder and all Subcontractors, regardless of tier, has the appropriate current and active Contractor's license 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. 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 Work within XX calendar days after the date of commencement specified in the Notice to Proceed.

PROJECT NO.: 907015

#### 2.0 ADDENDA

(NOT USED)

3.0

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's Facility at the appropriate address stated on Page 1 of the Advertisement for Bids. Bidder therefore agrees to be bound by all Addenda that have been issued for this Bid.

4.0	LUMP	SUM B	BASE B	SID						
	\$		] , [				,			
(Place figures in appropriate boxes.)										

Bidder shall also include in the LUMP SUM BASE BID the following allowance: **NOT USED** 

#### 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

PROJECT NO.: 907015

Bidder shall determine and provide in the space below, the daily rate of compensation for any compensable delay caused by University at any time during the performance of the Work:

Work:											
	e for C	ompens	able I	Delay at	or gre					dollar figure fo n Compensable	
	\$		, [ (Pl	ace figui	res in a	] appro	opria	te box	x xes.)	<u>10</u> multiplier	
			_		-					lay shall render t te times the mul	
of Compe	ensable	Delay o	aused	by Univ	ersity a	at any	time	e durin	g the p	entitlement for e	ie Worl

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.

#### 8.0 ALTERNATES

In order for a Bid to be responsive, Bidder must submit bid for Alternates listed below. The failure to do so shall result in the Bid being rejected as non-responsive.

	ALTERNATE #1										
DESCRIPTION: Alternate acoustical wall panel layout											
ADD or I	DEDUCT										
		Г							1	1	ı
		\$			,						
		_							<u>.</u>		

June 6, 2011 Revision: 4 LF: BID-FORM Bid Form 01011.01 Page 3 of 7

#### 9.0 LIST OF SUBCONTRACTORS

Bidder will use Subcontractors for the Work: (	Yes or No)
Brader will use succentractors for the work.	10001100)

If yes, provide in the spaces below (a) the name and the location of the place of business 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, specifically 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 1/2 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.

PROJECT NO.: 907015

	Subcontractor					
Work Activity	Name	Location (City)				

(Note: Add additional pages if required.)

#### 10. LIST OF CHANGES IN SUBCONTRACTORS DUE TO ALTERNATES

The information below must be provided for all changes in first-tier Subcontractors if University selects Alternates. List changes in Subcontractors only for those portions of the Work valued in excess of 1/2 of 1% of Bidder's Total Bid.

PROJECT NO.: 907015

		Subcontractor					
Alternate No.	Work Activity	Name	Location (City)				

(Note: Add additional pages if required.)

#### 11.0 BIDDER INFORMATION

TYPE OF ORGANIZATION:	
(Corporation, Partners)	hip, Individual, Joint Venture, etc.)
If a corporation, corporation is organized under the State of.	
NAME OF PRESIDENT OF THE CORPORA	TION:
NAME OF SECRETARY OF THE CORPORA	ATION:
IF A PARTNERSHIP, NAMES OF ALL GEN	ERAL PARTNERS:
CALIFORNIA CONTRACTORS LICENSE(S	):
(Name of Licensee)	(Classification)
(License Number)	(Expiration Date)
(For Joint Venture, list Joint Venture's license	e and licenses for all Joint Venture partners.)
12. REQUIRED COMPLETED ATTAC	CHMENTS
The following documents are submitted	d with and made a condition of this Bid:
1. Bid Security in the for	
	(Bid Bond or Certified Check)

PROJECT NO.: 907015

June 6, 2011 Revision: 4 LF: BID-FORM Bid Form 01011.01 Page 6 of 7

#### 13.0 DECLARATION

Ι,	(Printed name), hereby
	(Title) of
(Name of	f bidder) submitting this Bid Form; that I am duly
authorized to execute this Bid Form on bel	half 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, associatio	on, organization, or corporation; that the bid is
genuine and not collusive or sham; that the	ne bidder has not directly or indirectly induced or
solicited any other bidders to put in a fal-	se or sham bid, and has not directly or indirectly
colluded, conspired, connived, or agreed w	rith 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, commun	ication, 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, of	or to secure an advantage against the public body
awarding the contract of anyone interest	ted in the proposed contract' that all statements
contained in the bid are true; an, further	r, that the bidder has not, directly or indirectly,
submitted his or her bid price or any break	down thereof, or the contents thereof, or divulged
information or data relative thereto, or pa	aid, and will not pay any fee to any corporation,
partnership, company association, organi	zation, bid depository, or any member or agent
thereof to effectuate a collusive or sham bi	d.
I declare, under penalty of perjury, that	the foregoing is true and correct and that this
declaration was subscribed at:	
(Name of City if within a City, otherwise N	Name of County), in the State of
, on(Date).	

PROJECT NO.: 907015

June 6, 2011 Revision: 4 LF: BID-FORM Bid Form 01011.01 Page 7 of 7

(Signature)

#### **Classroom and Office Building Rooms 110 & 114 Renovations**

	<u> </u>	Addendum 1	Addendum 2
Sheet Number	Sheet Name		
A-071	COVER SHEET SYMBOLS NOTES AND SCHEDULE		8/16/2012
A-717	EXISITING FLOOR PLANS AND REFLECTED CEILING PLANS		8/16/2012
A-172	EXISTING INTERIOR ELEVATIONS		8/16/2012
A-271	NEW FLOOR PLANS & REFLECTED CEILING PLANS		8/16/2012
A-272	NEW INTERIOR ELEVATIONS		8/16/2012
A-272(a)	NEW INTERIOR ELEVATIONS (BID ALTERNATE)		8/16/2012
A-571	CLASSROOM REMODEL DETAILS		8/16/2012

#### SECTION 01 23 00 ALTERNATES

#### PART 1 - GENERAL

#### 1.1 ALTERNATES REQUIREMENTS

- A. This Section identifies each Alternate and describes basic changes to the Work only when that Alternate is made a part of the Work by specific provision in the Agreement.
- B. The Lump Sum Base Bid and Alternates shall include the costs of all supporting elements required, so that the combination of the Lump Sum Base Bid and any Alternates shall be complete. The scope of Work for all Alternates shall be in accordance with applicable Drawings and Specifications.
- C. Except as otherwise specifically provided by University, the Work described in Alternates shall be completed with no increase in Contract Time.
- D. This Section includes only the non-technical descriptions of the Alternates. Refer to the specific Sections of Divisions 2-33 of the Specifications for technical descriptions of the Alternates.
- E. Coordinate related Work and modify surrounding Work as required to properly and completely integrate the Alternates into the Work.

#### 1.2 DESCRIPTION OF ALTERNATES

#### A. Alternate No. 1:

1. Provide an alternate acoustical wall panel layout as shown on drawing sheet A-272(a).

DELETE work shown on drawing Sheet A-272 for this bid alternate pricing. (To price this bid alternate, deduct the cost for work shown on drawing Sheet A-272 from the cost of work shown on drawing Sheet A-272(a) ADDENDUM 2

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 23 00

ADDENDUM 2

#### **SECTION 21 1313**

PROJECT NO: 907015

#### SPRINKLER SYSTEM, FIRE PROTECTION

#### **PART 1 GENERAL**

#### 1.01 RELATED DOCUMENTS

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

#### 1.02 SUMMARY

A. Work Included: Design and build installation of piping and sprinkler to cover the UPS enclosure. Furnish piping offsets, fittings, and any other accessories as required to provide a complete installation and to eliminate interference with other construction. Install sprinkler to provide coverage in the UPS enclosure area. New piping and sprinkler to match existing building system. Except as modified herein, the system shall be designed and installed in accordance with NFPA 13. Design the sprinkler system including locating sprinklers, piping and equipment, and size piping and equipment. The design of the sprinkler system shall be based on hydraulic calculations, and the other provisions specified herein.

#### 1.03 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 101 (2009; TIA 09-1; TIA 09-2) Life Safety Code

NFPA 13 (2010; Errata 10-1; TIA 10-1) Installation of Sprinkler Systems

AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE)

ASSE 1015 (2009) Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies

(ANSI Approved 2010) AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA B300 (2010) Hypochlorites

AWWA B301 (2010) Liquid Chlorine

AWWA C110/A21.10 (2008) Ductile-Iron and Gray-Iron Fittings for Water

AWWA C111/A21.11 (2007) Rubber-Gasket Joints for

**Ductile-Iron Pressure Pipe and Fittings** 

AWWA C151/A21.51 (2009) Ductile-Iron Pipe, Centrifugally

Cast

ASME INTERNATIONAL (ASME)

ASME B16.1 (2010) Standard for Gray Iron Threaded

Fittings; Classes 125 and 250

#### 1.04 SUBMITTALS

#### 1.4.1 Hydraulic Design

Hydraulically design the system per UFC 3-600-01 and NFPA 13.

#### 1.4.2 Hydraulic Calculations

Prepare hydraulic calculations as outlined in NFPA 13, except that calculations shall be performed by computer using software intended specifically for fire protection system design using the design data shown on the drawings.

Software that uses k-factors for typical branch lines is not acceptable. Indicate the diameter, length, flow, velocity, friction loss, number and type fittings, total friction loss in the pipe, equivalent pipe length and Hazen-Williams coefficient for each pipe. A drawing showing hydraulic reference points (nodes) and pipe designations used in the calculations shall be included and shall be independent of shop drawings.

PROJECT NO: 907015

#### 1.4.3 Sprinkler Coverage

Sprinklers shall provide coverage in the UPS enclosure in accordance with NFPA 13. Coverage per sprinkler shall be in accordance with NFPA 13.

#### 1.05 SUBMITTALS

#### A. Shop Drawings

Three copies of the Sprinkler System Shop Drawings, no later than 21 days prior to the start of sprinkler system installation.

#### B. As-Built Drawings

As-built shop drawings, at least 14 days after completion of the Final Tests, updated to reflect as-built conditions after all related work is completed.

#### C. Design Data

Hydraulic calculations, including a drawing showing hydraulic reference points and pipe segments.

#### 1.06 QUALITY ASSURANCE

A. Compliance with referenced NFPA standards is mandatory. This includes advisory provisions listed in the appendices of such standards, as though the word "shall" had been substituted for the word "should" wherever it appears. In the event of a conflict between specific provisions of this specification and applicable NFPA standards, this specification shall govern. Reference to "authority having jurisdiction" shall be interpreted to mean the Design Builder.

#### 1.6.1 Sprinkler System Installer

Work specified in this section shall be performed by the Sprinkler System Installer who is regularly engaged in the installation of the type and complexity of system specified in the contract documents, and shall have served in a similar capacity for at least three systems that have performed in the manner intended for a period of not less than 6 months.

PROJECT NO: 907015

#### 1.07 PRODUCT HANDLING

- A. Storage of Materials:
  - 1. Store only acceptable Project materials on Project site.
  - 2. Store in suitable location.
  - 3. Restrict storage to paint materials and related equipment.
  - 4. Comply with health and fire regulations.

#### **PART 2 PRODUCTS**

#### 2.1 STANDARD PRODUCTS

Provide materials and equipment which are standard products of a manufacturer regularly engaged in the manufacture of such products and that essentially duplicate items that have been in satisfactory use for at least 2 years prior to bid opening.

#### 2.2 NAMEPLATES

All equipment shall have a nameplate that identifies the manufacturer's name, address, type or style, model or serial number, and catalog number.

#### 2.3 REQUIREMENTS FOR FIRE PROTECTION SERVICE

Provide Materials and Equipment that have been tested by Underwriters Laboratories, Inc. and are listed in UL Fire Prot Dir or approved by Factory Mutual and listed in FM P7825a and FM P7825b. Where the terms "listed" or "approved" appear in this specification, such shall mean listed in UL Fire Prot Dir or FM P7825a and FM P7825b

#### 2.4 ABOVEGROUND PIPING COMPONENTS

Aboveground piping shall be steel or plastic.

#### 2.5. Steel Piping Components

#### 2.5.1 Steel Pipe

Except as modified herein, steel pipe shall be Schedule 40, and shall conform to applicable provisions of ASTM A 795/A 795M, ASTM A 53/A 53M, or ASTM A 135/A 135M. Pipe shall be marked with the name of the manufacturer, kind of pipe, and ASTM esignation. Schedule 10 piping shall be permitted for sizes larger than two inches.

#### 2.5.2 Fittings for Non-Grooved Steel Pipe

Fittings shall be cast iron conforming to ASME B16.4, steel conforming to ASME B16.9 or ASME B16.11, or malleable iron conforming to ASME B16.3.

PROJECT NO: 907015

Fittings into which sprinklers, drop nipples or riser nipples (sprigs) are screwed shall be threaded type. Plain-end fittings with mechanical couplings, fittings that use steel gripping devices to bite into the pipe and segmented welded fittings shall not be used.

#### 2.5.3 Grooved Mechanical Joints and Fittings

Joints and fittings shall be designed for not less than 175 psi service and shall be the product of the same manufacturer; segmented welded fittings shall not be used. Fitting and coupling houses shall be malleable iron conforming to ASTM A 47/A 47M, Grade 32510; ductile iron conforming to ASTM A 536, Grade 65-45-12. Gasket shall be the flush type that fills the entire cavity between the fitting and the pipe. Nuts and bolts shall be heat-treated steel conforming to ASTM A 183 and shall be cadmium plated or zinc electroplated.

#### 2.5.4 Flanges

Flanges shall conform to NFPA 13 and ASME B16.1. Gaskets shall be non-asbestos compressed material in accordance with ASME B16.21, 1/16 inch thick, and full face or self-centering flat ring type.

#### 2.5.5 Bolts, Nut, and Washers

Bolts shall be conform to ASTM A 449, Type 1 and shall extend no less than three full threads beyond the nut with bolts tightened to the required torque. Nuts shall be hexagon type conforming to ASME B18.2.2, ASTM A 193/A 193M, Grade 5 or ASTM A 563, Grade C3, DH3. Washers shall meet the requirements of ASTM F 436. Flat circular washers shall be provided under all bolt heads and nuts.

#### 2.5.6 Pipe Hangers

Hangers shall be listed in UL Fire Prot Dir or FM P7825a and FM P7825b and of the type suitable for the application, construction, and pipe type and sized to be supported.

#### 2.5.7 Valves

#### 2.5.7.1 Control Valve and Gate Valve

Manually operated sprinkler control valve and gate valve shall be outside stem and yoke (OS&Y) type and shall be listed in UL Bld Mat Dir or FM P7825aand FM P7825b.

#### 2.5.7.2 Check Valve

Check valve 2 inches and larger shall be listed in UL Bld Mat Dir or FM P7825a and FM P7825b. Check valves 4 inches and larger shall be of the swing type with flanged cast

PROJECT NO: 907015

iron body and flanged inspection plate, shall have a clear waterway and shall meet the requirements of MSS SP-71, for Type 3 or 4.

#### 2.6 ALARM CHECK VALVE ASSEMBLY

Assembly shall include a check valve, standard trim piping, pressure gauges, bypass, testing valves, main drain, and other components as required for a fully operational system.

#### 2.10 SPRINKLERS

Sprinklers with internal O-rings shall not be used. Sprinklers shall be used in accordance with their listed coverage limitations. Temperature classification shall be ordinary. Sprinklers in high heat areas shall have temperature classification in accordance with NFPA 13. Extended coverage sprinklers shall not be used.

#### 2.10.1 Pendent Sprinkler

Pendent sprinkler shall be of the fusible strut or glass bulb type, quick-response type with nominal 1/2 inch orifice. Pendent sprinklers shall have a white polyester finish.

#### 2.10.2 Upright Sprinkler

Upright sprinkler shall be brass and shall have a nominal 1/2 inch orifice.

#### 2.10.3 Dry Sprinkler Assembly

Dry sprinkler assembly shall be of the sidewall type as indicated. Assembly shall include an integral escutcheon. Maximum length shall not exceed maximum indicated in UL Fire Prot Dir.

#### 2.11 DISINFECTING MATERIALS

#### 2.11.1 Liquid Chlorine

Liquid chlorine shall conform to AWWA B301.

#### 2.11.2 Hypochlorites

Calcium hypochlorite and sodium hypochlorite shall conform to AWWA B300.

#### **PART 3 EXECUTION**

#### 3.01 FIELD MEASUREMENTS

After becoming familiar with all details of the work, verify all dimensions in the field, and advise the University of any discrepancy before performing the work.

#### 3.02 INSTALLATION REQUIREMENTS

The installation shall be in accordance with the applicable provisions of NFPA 13, NFPA 24 and publications referenced therein.

#### 3.03 ABOVEGROUND PIPING INSTALLATION

#### 3.03.1 Protection of Piping Against Earthquake Damage

Seismically protect the system piping against damage from earthquakes. This requirement is not subject to determination under NFPA 13. Install the seismic protection of the system piping in accordance with UFC 3-310-04, NFPA 13 and Annex A. Include the required features identified therein that are applicable to the specific piping system.

#### 3.03.2 Piping in Exposed Areas

Install exposed piping without diminishing exit access widths, corridors or equipment access. Exposed horizontal piping, including drain piping, shall be installed to provide maximum headroom.

#### 3.03.3 Piping in Finished Areas

In areas with suspended or dropped ceilings and in areas with concealed spaces above the ceiling, piping shall be concealed above ceilings. Piping shall be inspected, tested and approved before being concealed. Risers and similar vertical runs of piping in finished areas shall be concealed.

#### 3.03.4 Pendent Sprinklers

Drop nipples to pendent sprinklers shall consist of minimum 1 inch pipe with a reducing coupling into which the sprinkler shall be threaded. Hangers shall be provided on armovers to drop nipples supplying pendent sprinklers when the arm-over exceeds 12 inches for steel pipe or 6 inches for copper tubing.

#### 3.03.5 Upright Sprinklers

Riser nipples or "sprigs" to upright sprinklers shall contain no fittings between the branch line tee and the reducing coupling at the sprinkler. Riser nipples exceeding 30 inches in length shall be individually supported.

#### 3.03.6 Pipe Joints

Pipe joints shall conform to NFPA 13, except as modified herein. Not more than four threads shall show after joint is made up. Welded joints will be permitted, only if welding operations are performed as required by NFPA 13 at the Contractor's fabrication shop, not at the project construction site. Flanged joints shall be provided where indicated or required by NFPA 13. Grooved pipe and fittings shall be prepared in accordance with the manufacturer's latest published specification according to pipe material, wall thickness and size. Grooved couplings, fittings and grooving tools shall be products of the same manufacturer. For copper tubing, pipe and groove dimensions shall comply with the tolerances specified by the coupling manufacturer. The diameter of grooves made in the field shall be measured using a "go/no-go" gauge, vernier or dial caliper, narrow-land micrometer, or other method specifically approved by the coupling manufacturer for the intended application. Groove width and dimension of groove from end of pipe shall be measured and recorded for each change in grooving tool setup to verify compliance with coupling manufacturer's tolerances. Grooved joints shall not be used in concealed locations, such as behind solid walls or ceilings, unless an access panel is shown on the drawings for servicing or adjusting the joint.

PROJECT NO: 907015

#### 3.03.7 Reducers

Reductions in pipe sizes shall be made with one-piece tapered reducing fittings. The use of grooved-end or rubber-gasketed reducing couplings will not be permitted. When standard fittings of the required size are not manufactured, single bushings of the face type will be permitted. Where used, face bushings shall be installed with the outer face flush with the face of the fitting opening being reduced. Bushings shall not be used in elbow fittings, in more than one outlet of a tee, in more than two outlets of a cross, or where the reduction in size is less than 1/2 inch.

#### 3.03.8 Pipe Penetrations

Cutting structural members for passage of pipes or for pipe-hanger fastenings will not be permitted. Pipes that must penetrate concrete or masonry walls or concrete floors shall be core-drilled and provided with pipe sleeves. Each sleeve shall be Schedule 40 galvanized steel, ductile iron or cast iron pipe and shall extend through its respective wall or floor and be cut flush with each wall surface. Sleeves shall provide required clearance between the pipe and the sleeve per NFPA 13. The space between the sleeve and the pipe shall be firmly packed with mineral wool insulation. Where pipes penetrate fire walls, fire partitions, or floors, pipes shall be fire stopped in accordance with Section 07 84 00 FIRESTOPPING. In penetrations that are not fire-rated or not a floor penetration, the space between the sleeve and the pipe shall be sealed at both ends with plastic waterproof cement that will dry to a firm but pliable mass or with a mechanically adjustable segmented elastomer seal.

#### 3.03.9 Escutcheons

Escutcheons shall be provided for pipe penetration of ceilings and walls. Escutcheons shall be securely fastened to the pipe at surfaces through which piping passes.

3.03.10 Hydrostatic Testing

Aboveground piping shall be hydrostatically tested in accordance with NFPA 13 at not less than 200 psi or 50 psi in excess of maximum system operating pressure and shall maintain that pressure without loss for 2 hours. There shall be no drop in gauge pressure or visible leakage when the system is subjected to the hydrostatic test. The test pressure shall be read from a gauge located at the low elevation point of the system or portion being tested.

PROJECT NO: 907015

**END OF SECTION** 

#### **SECTION 26 5100**

PROJECT NO: 907015

#### INTERIOR LIGHTING

#### **PART 1 - GENERAL**

#### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Existing interior ceiling mounted room lighting fixtures, lamps, and ballasts. (Identified as F74C on original building drawings)
  - 2. Existing interior wall mounted white board lighting units, lamps, and ballasts. (Identified as F23B on original building drawings)
  - 3. Existing illuminated exit signs.
  - 4. Lighting fixture supports
  - 5. Existing and new lighting control systems which may include control modules, power packs, dimming ballasts, occupancy sensors, light level sensors and switches.

#### 1.2 DEFINITIONS

- A. BF: Ballast factor.
- B. CRI: Color-rendering index.
- C. CU: Coefficient of utilization.
- D. HID: High-intensity discharge.
- E. LER: Luminaire efficacy rating.
- F. Luminaire: Complete lighting fixture, including ballast housing if provided.
- G. RCR: Room cavity ratio.

Unless otherwise specified or indicated, electrical and electronic terms used in these specifications, and on the drawings, shall be as defined in IEEE 100.

Average life is the time after which 50 percent will have failed and 50 percent will have survived under normal conditions.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of lighting fixture component replaced or added for a complete installation. Include data on features, accessories, finishes, and the following:
  - 1. Physical description of component including dimensions. This information may be supplemented by catalog data, and shall contain a list of vendors with vendor part numbers.

907015 / Classroom and Office Building, Rooms 110 & 114 Renovations INTERIOR LIGHTING Section 26 5100 - 1

- PROJECT NO: 907015
- 2. Environment information: Submit documentation that includes contact information, summary of procedures, and the limitations and conditions applicable to the project. Indicate manufacturer's commitment to reclaim materials for recycling and/or reuse. Documentation indicating distance between manufacturing facility and the project site. Indicate distance of raw material origin from the project site. Indicate relative dollar value of local/regional materials to total dollar value of products included in project.
- 3. Operation and maintenance data for all replaced and new components as noted on the drawings which may include light fixtures, control modules, control zones, occupancy sensors, light level sensors, power packs, dimming ballasts, schematic diagrams and all interconnecting control wire, conduit, and associated hardware.
- 4. Regulatory requirements: Equipment, materials, installation, and workmanship shall be in accordance with the provisions of NFPA 70 and NFPA 101, unless more stringent requirements are required by the manufacturer or university standards.
- 5. New lamps and/or ballasts.
- 6. Energy-efficiency data.
- B. Shop Drawings: Show details of all systems and components added for a complete lighting fixture system as noted and shown on drawings. Indicate dimensions, weights, methods of field assembly, components, features, and accessories.
  - 1. Wiring Diagrams: Power and control wiring. Clearly indicate how existing systems shall be adjusted and how new connections shall be made to existing systems.
- C. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
  - 1. Existing lighting fixture bracing through new ceiling.
  - 2. Structural members to which suspension systems for lighting fixtures will be attached and the attachment method.
  - 3. Other items in finished ceiling including the following:
    - a. Piping.
    - b. Sprinklers.
    - c. Smoke and fire detectors.
    - d. Occupancy sensors.

#### 1.4 COORDINATION

A. Coordinate layout and installation of lighting fixture bracing and suspension system with other construction that penetrates the new ceiling or is supported by them, including piping and supports, HVAC equipment, fire-suppression system, and partition assemblies.

#### 1.5 WARRANTY

A. The equipment items and components shall be supported by service organizations which are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

- B. Special Warranty for Ballasts: Manufacturer's standard form in which ballast manufacturer agrees to repair or replace ballasts that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period for new Electronic Ballasts: Five years from date of Substantial Completion. Ballast assembly in the lighting fixture, transportation, and on-site storage shall not exceed 12 months, thereby permitting 4 years of the ballast 5 year warranty to be in service and energized. The warranty shall state that the malfunctioning ballast shall be exchanged by the manufacturer and promptly shipped to the using facility. The replacement ballast shall be identical to, or an improvement upon, the original design of the malfunctioning ballast.

#### **PART 2 - PRODUCTS**

#### 2.1 LIGHTING FIXTURES AND COMPONENTS, GENERAL REQUIREMENTS

- A. Lighting Fixtures: Clean and repair all existing fixtures and components to like-new condition. Replace existing fixtures and components which cannot be satisfactorily repaired with units that match original design.
- B. Metal Parts: Free of burrs and sharp corners and edges.
- C. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.
- D. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
- E. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
  - 1. White Surfaces: 85 percent.
  - 2. Specular Surfaces: 83 percent.
  - 3. Diffusing Specular Surfaces: 75 percent.
  - 4. Laminated Silver Metallized Film: 90 percent.
- F. Plastic Diffusers, Covers, and Globes:
  - 1. Replace damaged units with matching ones that have high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
    - a. Lens Thickness: Typically 0.125 inch (3.175 mm) minimum, unless different thickness is indicated by manufacturer.
    - b. UV stabilized.
  - 2. Glass: Annealed crystal glass, unless otherwise indicated.
- G. Electromagnetic-Interference Filters: Factory installed to suppress conducted electromagnetic-interference as required by MIL-STD-461E. Fabricate lighting fixtures with one filter on each

ballast as provided on original installation. (Note: These filters are required only on new ballasts and only if provided in original installation.)

#### 2.2 FLUORESCENT LAMP ELECTRONIC BALLAST

- Fluorescent fixtures shall have electronic ballasts unless specifically indicated otherwise, UL 1598.
- B. The electronic ballast shall as a minimum meet the following characteristics:
  - 1. Ballast shall comply with UL 935, ANSI C82.11, NFPA 70, and CEC Title 24.
  - 2. Sound Rating: A.
  - 3. Total Harmonic Distortion Rating: Less than 15 percent.
  - 4. Transient Voltage Protection: IEEE C62.41, Category A or better.
  - 5. Lamp Current Crest Factor: 1.5 or less.
  - 6. Power Factor: .90 or higher.
  - 7. Interference: Comply with 47 CFR, Chapter 1, Part 18, Subpart C, for limitations on electromagnetic and radio-frequency interference for non-consumer equipment.
  - 8. Protection: Class P thermal cutout.
  - 9. Each ballast shall have circuit diagrams and lamp connections displayed on the ballast.
  - 10. Ballasts shall be designed for the wattage of the lamps used in the indicated application.
  - 11. Ballasts shall be designed to operate on the voltage system to which they are connected.

#### 2.3 EMERGENCY LIGHTING UNITS AND EXIT SIGNS

- A. Description: Self-contained units complying with UL 924 for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.
  - 1. Battery: Sealed, maintenance-free, lead-acid type.
  - 2. Charger: Fully automatic, solid-state type with sealed transfer relay.
  - 3. Operation: Relay automatically turns lamp on when power supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
  - 4. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
  - 5. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.
  - 6. Wire Guard: Heavy-chrome-plated wire guard protects lamp heads or fixtures.
  - 7. Integral Time-Delay Relay: Holds unit on for fixed interval of 15 minutes when power is restored after an outage.
  - 8. Remote Test: Switch in hand-held remote device aimed in direction of tested unit initiates coded infrared signal. Signal reception by factory-installed infrared receiver in tested unit triggers simulation of loss of its normal power supply, providing visual confirmation of either proper or failed emergency response.
  - 9. Integral Self-Test: Factory-installed electronic device automatically initiates coderequired test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and flashing red LED.

#### 2.4 LABLES AND FINISH

- A. Provide labeled luminaires in accordance with UL 1598 requirements. All luminaires shall be clearly marked for operation of specific lamps and ballasts according to proper lamp type. All markings related to lamp type shall be clear and located to be readily visible to service personnel. Ballasts shall have clear markings indicating multi-level outputs and indicate proper terminals for the various outputs.
- B. Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA 250 corrosion-resistance test.

#### 2.5 LIGHTING FIXTURE SUPPORT COMPONENTS

- A. Provide all necessary new hardware to install and secure lighting fixtures with fixture supports for conditions indicated on drawings. Each fixture to have a short pigtail with appropriate plug. A mating receptacle will be installed near each fixture to plug fixture into. This will allow easy removal of fixture for maintenance at floor level rather than from ladder
- B. Rod Hangers: 3/16-inch minimum diameter, cadmium-plated, threaded steel rod.
- C. Hook Hangers: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.
- D. Suspended fixtures: Provide hangers capable of supporting twice the combined weight of fixtures supported by hangers. Provide with swivel hangers to ensure a plumb installation. Hangers shall be cadmium-plated steel with a swivel-ball tapped for the conduit size shown in shop drawings. Hangers shall allow fixtures to swing within an angle of 45 degrees. Brace pendant fixture hangers within 2-inches above the new ceiling main runners and cross tees as provided in shop drawings to limit swinging and interference with new ceiling system. Single-unit suspended fluorescent fixtures shall have twin-stem hangers. Multiple-unit or continuous row fluorescent fixtures shall have a tubing or stem for wiring at one point and a tubing or rod suspension provided for each unit length of chassis, including one at each end.

#### 2.6 REQUIREMENTS FOR INDIVIDUAL LIGHTING FIXTURES

- A. Fixture Type: Match existing when replacement is necessary.
  - 1. Manufacturers: Match existing or University approved equal.
  - 2. Submit sample of alternate for University approval, if existing is unavailable.

#### **PART 3 - EXECUTION**

#### 3.1 INSTALLATION

- A. Lighting fixtures: Set level, plumb, and square with ceilings and walls. Install lamps in each fixture.
- B. Suspended Lighting Fixture Support:

907015 / Classroom and Office Building, Rooms 110 & 114 Renovations INTERIOR LIGHTING Section 26 5100 - 5

- 1. Pendants and Rods: Brace to limit swinging just above finished ceiling and provide grommet in ceiling tile to allow for movement. Suspended light fixture support components shall not fasten to or penetrate new ceiling main runners and cross tees.
- C. Electrical installations shall conform to IEEE C2, NFPA 70, and to the manufacturers written requirements.
- D. Upon completion of installation, verify that equipment is properly installed, connected, and adjusted. Conduct an operating test to show that equipment operates in accordance with requirements of this section, the drawings, and university standards.

#### 3.2 FIELD QUALITY CONTROL

- A. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery and retransfer to normal.
- B. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

END OF SECTION 26 5100

2. ALL WORK SHALL COMPLY WITH THE CURRENT APPROVED EDITION ALL CALIFORNIA BUILDING CODES, AS AMENDED BY LOCAL ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS TO THE MECHANICAL, ELECTRICAL AND FIRE SPRINKLER DESIGN TO MEET CURRENT CODE REQUIREMENTS AND PROJECT STANDARDS.

3. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, PERMITS, FEES AND EQUIPMENT SPECIFIED, INDICATED OR IMPLIED IN THESE DOCUMENTS TO ACCOMPLISH THE CONSTRUCTION IN A PROFESSIONAL, WORKMANLIKE MANNER. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION TASKS INDICATED AND LOCAL CODES AND/OR ORDINANCES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE UNIVERSITY'S PROJECT MANAGER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.

4. THE CONTRACTOR TO VERIFY AND COORDINATE ROUTING OF DUCTWORK, CONDUIT, PIPING, ETC. WITH EACH DISCIPLINE AND WITH STRUCTURE. ANY SHOP DRAWINGS SHALL BE MADE BY THE SUBCONTRACTOR SHOWING OVERLAY OF ALL DISCIPLINES. THE ROUTING OF ALL DUCTWORK, CONDUIT, PIPING, ETC. IS TO BE FIELD VERIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE ADJUSTMENTS OR ANY MODIFICATIONS NECESSARY TO PROVIDE THE DESIRED FUNCTION OF THE SYSTEM.

5. CONTRACTOR SHALL KEEP PREMISES (WORK AREA) CLEAN DAILY, BROOM CLEAN AT PROJECT COMPLETION, AND SHALL REMOVE ALL REFUSE FROM SITE. ALL REMOVED MATERIALS, REFUSE, AND DEBRIS SHALL BE PROPERLY DISPOSED OF. COORDINATE WITH UNIVERSITY'S REPRESENTATIVE BEFORE HAULING FROM SITE.

6. RESPONSES TO THE FINAL WALK-THRU PUNCH LIST SHALL BE PROVIDED WITHIN A WEEK AFTER THE WALK-THRU.

7. IF AN INSTALLATION OR MOUNTING DETAIL IS NOT SHOWN ON THE DRAWINGS, THE WORK IS TO BE COMPLETED IN A PROFESSIONAL WORKMANLIKE MANNER CONFORMING TO MANUFACTURER'S, SMACNA, APPLICABLE CODE OR INDUSTRY STANDARD RECOMMENDATIONS.

8. ALL THE DROPS AND RISES IN DUCTWORK, CONDUIT OR PIPING MAY NOT BE SHOWN. OFFSET, DROP OR RISE TO ACCOMMODATE FIELD CONDITIONS.

CONTRACTOR TO VERIFY MOUNTING ELEVATION IS COORDINATED WITH (E) DUCTWORK, (E) CABLE TRAY, (E) CONDUIT, OR (E) PIPING ELEVATION AND LOCATION.

9. CONTRACTOR TO INFORM UNIVERSITY'S PROJECT MANAGER OF WHERE AND WHEN CUTTING OR REMOVAL OF DUCTWORK, CONDUIT OR PIPING IS TO TAKE PLACE WHEN IT MAY AFFECT DISTRIBUTION TO OTHER PARTS OF THE BUILDING.

10. ANY DEMOLITION WORK NEEDED IS TO BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REPORT ANY ISSUES OR DISCREPANCIES TO UNIVERSITY'S PROJECT MANAGER PRIOR TO START OF ANY WORK.

11. THE CONTRACTOR SHALL INSPECT JOB SITE TO VERIFY FIELD CONDITIONS PRIOR TO THE START OF WORK. NOT ALL EXISTING CONDITIONS ARE INDICATED ON THE PLANS.

12. MAINTAIN ALL MECHANICAL, PLUMBING, ELECTRICAL, ALARM, AND TELECOM SYSTEMS IN SERVICE OUTSIDE OF THE AREA OF NEW WORK UNDER THIS PHASE OF WORK. PROVIDE REQUIRED MEANS OF MAINTAINING CONTINUITY AND OPERATION OF THESE SYSTEMS.

13. DO NOT DISABLE OR DISTURB ANY SYSTEM PRIOR TO OBTAINING PERMISSION FROM THE UNIVERSITY'S PROJECT MANAGER. NOTIFY OWNER'S PROJECT MANAGER AT LEAST 48 HOURS PRIOR TO DISABLING OR SHUTTING DOWN ANY SYSTEM.

14. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON DRAWINGS.

15. ALL DIMENSIONS TO OPENINGS ARE TO THE FINISHED FACE UNLESS NOTED OTHERWISE.

16. ALL DIMENSIONS TO STUD PARTITIONS, CONCRETE WALL, OR METAL STOREFRONT FRAME ARE TO THE FACE OF FINISH UNITESS NOTED OTHERWISE.

17. ACOUSTICAL TILE CEILING HEIGHT DIMENSIONS ARE FROM FINISHED SEALED SLAB FLOOR TO FINISH FACE OF EXPOSED TEE SYSTEM.

18. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE PROCEEDING WITH THE WORK.

19. DETAILS MARKED "TYPICAL" SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY INDICATED OTHERWISE.

20. ALL NEW WORK SHALL NOT IMPAIR THE PROPER OPERATION OR FUNCTION OF EXISTING EQUIPMENT IN EACH CLASSROOM OR ADJACENT SPACES IN BUILDING. FIELD VERIFY EXISTING CONDITIONS PRIOR TO ORDERING ANY MATERIAL OR STARTING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE UNIVERSITY'S PROJECT MANAGER FOR RESOLUTION PRIOR TO BEGINNING THAT AREA OF WORK.

## COMMON ABBREVIATIONS

A.B.	ANCHOR BOLT	F.O.M.	FACE OF MASONRY	PL	PLATE
AL	ALUMINUM	F.O.S.	FACE OF STUD	PLAS	PLASTER
A/E	ARCHITECT/ENGINEER	FT FT	FOOT OR FEET	PLYWD	PLYWOOD
ARCH	ARCHITECTURAL	FTG	FOOTING	PR	PAIR
ASPH	ASPHALT	FUR	FURRING	P.T.	PAPER TOWEL
AVC	AUDIO/VIDEO CONSULTANT	1010	TOKKNING	PVC	POLYVINYL CHLORIDE
A <b>v</b> 0	Nobio, vibeo conscensivi	GA	GAUGE	1 0	TOLIVINIE OFFICIALE
BLDG.	BUILDING	GALV	GALVANIZED	RA	RETURN AIR
BLK	BLOCK	G.I.	GALVANIZED IRON	RD	ROOF DRAIN
BLKG	BLOCKING	GL	GLASS OR GLAZING	REG	REGISTER
ВМ	BEAM	GR	GRADE	REINF	REINFORCE
вот.	воттом	GSM	GALVANIZED SHEET MTL.	REQ'D	REQUIRED
B.U.R.	BUILT UP ROOFING	GYP	GYPSUM	RWL	RAIN WATER LEADER
CBC	CALIFORNIA BUILDING CODE	НВ	HOSE BIBB	S	SOUTH
C.J.	CONTROL JOINT	HC	HOLLOW CORE	SC	SOLID CORE
CLG	CEILING	HDR	HEADER	SCHED	SCHEDULE
CLKG	CAULKING	H.M.	HOLLOW METAL	SD	STORM DRAIN
СМИ	CONC MASONRY UNIT	HT	HEIGHT	SECT	SECTION
COL	COLUMN			S.E.D.	SEE ELECTRICAL DRAWINGS
COMP	COMPOSITION	IBC	INTERNATIONAL BUILDING CODE	SHT	SHEET
CONC	CONCRETE	I.D.	INSIDE DIAMETER	SIM	SIMILAR
CONST	CONSTRUCTION	IN	INCH OR INCHES	SM	SHEET METAL
CONT	CONTINUOUS	INS	INSULATION	SQ	SQUARE
		INV	INVERT	SS	STAINLESS STEEL
DBL	DOUBLE	JST	JOIST	SSK	SERVICE SINK
DTL	DETAIL	JT	JOINT	STD	STANDARD
DIA.	DIAMETER			STL	STEEL
DIAG	DIAGONAL	KPL	KICKPLATE	STRL	STRUCTURAL
DIM	DIMENSION	LAM.	LAMINATE	SURF.	SURFACE
DISP.	DISPENSER	LB	LAG BOLT	SUSP	SUSPENDED
DR	DOOR	LT	LIGHT	SYM	SYMMETRICAL
DRWG(S)	DRAWING(S)		2.6111	O 1 111	
DS	DOWNSPOUT	MAX	MAXIMUN	T.B.D.	TO BE DETERMINED
DSA	DIVISION OF THE STATE ARCHITECT	M.B.	MACHINE BOLT	T&B	TOP & BOTTOM
(E)	EAST	MECH	MECHANICAL	TC	TOP OF CURB OR CONCRETE
E	EXISTING	MEMB	MEMBRANE	THR	THRESHOLD
EA.	EACH	MTL	METAL	THRU	THROUGH
EJ	EXPANSION JOINT	MFR	MANUFACTURER	TOW	TOP OF WALL
EL	ELEVATION	MIN	MINIMUM	TOS	TOP OF CONCRETE SLAB FLOOR
ELEC	ELECTRICAL (AL)	MISC	MISCELLANEOUS	T	TEMPERED GLASS
EQ	EQUAL	MTD	MOUNTED	' TYP	TYPICAL
EQUIP	EQUIPMENT	MU	MASONRY UNIT	111	TITIOAL
EXH	EXHAUST	N	NORTH	UON	UNLESS OTHERWISE NOTED
EXIST	EXISTING (SEE (E))	(N)	NEW	VERT	VERTICAL
EXP	EXPANSION	NA	NOT APPLICABLE	W	WEST
	EXPANSION				
FB	FLAT BAR	NIC NO	NOT IN CONTRACT	W/	WITH
FD		INU	NUMBER	WG	WIRE GLASS
FU	FLOOR DRAIN		NATIONAL DIDE TUDEAD	\ <b>A</b> /LI	WATED LEATED
FDN	FLOOR DRAIN FOUNDATION	NPT	NATIONAL PIPE THREAD	WH	WATER HEATER
			NATIONAL PIPE THREAD NOT TO SCALE	WI	WROUGHT IRON
FDN	FOUNDATION	NPT		WI W/O	WROUGHT IRON WITHOUT
FDN FE	FOUNDATION  FIRE EXTINGUISHER	NPT NTS	NOT TO SCALE	WI	WROUGHT IRON
FDN FE FF	FOUNDATION  FIRE EXTINGUISHER  FACTORY FINISHED	NPT NTS OC	NOT TO SCALE  ON CENTER	WI W/O	WROUGHT IRON WITHOUT WEATHERPROOF OR

### FINISH SCHEDULE AND NOTES

INTERIOR COLOR/FINISH/PRODUCT SCHEDULE				
PRODUCT/MATERIAL	MANUFACTURER	STYLE/TYPE	COLOR	NOTES
ACOUSTICAL PANEL	WALL TECHNOLOGY	A100 SERIES WITH BEVELED EDGE	SEE PANEL FABRIC	Z-CLIP INSTALLATION METHOD
ACOUSTICAL PANEL FABRIC FINISH	MAHARAM	MORSE-901720	004 CLIFF	
ACOUSTICAL CEILING TILE	ARMSTRONG	CIRRUS 589 — BEVELED TEGULAR	WHITE (FF)	CIRRUS TILE & LAY-IN
ACOUSTICAL CEILING TILE GRID SYSTEM	ARMSTRONG	SUPRAFINE 9/16" EXPOSED TEE	WHITE (FF)	SEE DETAIL 1 TO 4 ON SHEET A-571
CARPET TILES	BENTLEY PRINCE STREET, INC.	TALL STORY-4TZ240220T / TILE	JUST WALKED IN-400405	24"x24" TILE, QUARTER—TURN GLUE DOWN INSTALLATION
WALK OFF MATS	MATS, INC.	3/8" THICK SOFT GRID - 48" WIDTH	GRAY (FF)	LOOSE LAY AND CUT TO FIT PERIMETER SHAPE
DOOR THRESHOLD TO MAT TRANSITION	MATS, INC.	ALCRS BK, PVC RAMP	BLACK (FF)	GLUE DOWN INSTALLATION METHOD
CARPET TO MAT TRANSITION	JOHNSONITE, INC.	CCA-XX ADAPTOR	BLACK (FF)	GLUE DOWN WITH MITERED CORNERS
(E) PAINTED WALLS (MATCH COLOR)	PITTSBURG PAINT (OR MATCH COLOR)	INTERIOR SATIN OR EGGSHELL	516-2 ANTIQUE WHITE	TOUCH-UP EXIST. WALL COLOR AS REQUIRED
(E) WALL WOOD BASE TRIM PAINT	KELLY-MOORE (OR MATCH COLOR)	INTERIOR SEMI-GLOSS	KM3933-GRANITE CLIFF	PREP. EXISTING BASE FOR NEW PAINT COLOR
PROJECTION SCREEN - OFCI	DRAPER	PREMIER MOTORIZED FRONT PROJECTION	HI DEF GREY	WALL MOUNT (101375LP OR EQUAL) SEE DET. 10/A-571
VIDEO PROJECTOR - OFCI	BY AVC AND UNIVERSITY	POWERED ZOOM AND FOCUS, DLP	BY MANUFACTURER	PROJECTION SIZE TO 300" DIAGONAL MINIMUM.
SPEAKER SYSTEM FOR VIDEO - OFCI	BY AVC AND UNIVERSITY	BY AVC AND UNIVERSITY	BY MANUFACTURER	MAY BE WALL OR CEILING MOUNT SYSTEM
PROJECTOR CEILING MOUNT — OFCI	CHIEF CHIEF CHIEF	CMA455 — 2'x2' CEILING TILE PLATE CMS SPEED—CONNECT FIXED EXTENSION PROJECTOR STEEL SECURITY CAGE	WHITE (FF) BLACK (FF) BLACK (FF)	CEILING MOUNT IN WITH ACOUSTICAL CEILING SYSTEM 1-1/2" NPT COLUMN - LENGTH TO CLEAR LIGHTS PG3A-EXTRA LARGE OR PG1A LARGE. SEE DETAIL 9 ON SHEET A-571.

GENERAL NOTES:

ALL MANUFACTURES PRODUCTS NOTED IN FINISH SCHEDULE ARE FOR REFERENCE ONLY. COLOR, STYLE, PATTERNS AND PRODUCT QUALITY WITH EQUAL OR SIMILAR PRODUCTS SHALL MATCH FINISH SCHEDULE AND SHALL BE APPROVED BY UNIVERSITY REPRESENTATIVE.

COMPONENTS LISTED AS OFCI SHALL BE DESIGN/BUILD SUPPLIED BY THE UNIVERSITY AND INSTALLED BY THE CONTRACTOR. INSTALLATION SHALL INCLUDE ALL ELECTRICAL, DATA, CABLE, HARDWARE, MOUNTING, CONDUIT, BRACING, ETC. FOR A COMPLETE INSTALLATION OF EACH COMPONENT READY FOR USE.

## INTERIOR FINISH NOTES

A. FOR ADDITIONAL NOTES AND INFORMATION SEE FLOOR PLANS, REFLECTED CEILING PLANS AND INTERIOR ELEVATIONS.

B. SEE SPECIFICATIONS OR MANUFACTURER'S LITERATURE FOR MATERIALS LISTED.

C. WALL AND CEILING MATERIALS SHALL NOT EXCEED THE FLAME SPREAD CLASSIFICATIONS IN 2010 C.B.C. TABLE 803.9

D. ALL METALS EXPOSED TO VIEW SHALL BE FACTORY FINISHED OR FIELD PAINTED,

E. ALL PAINT FINISHES SHALL BE SATIN OR EGGSHELL, VERIFY WITH OWNER.

F. FOR ANY CONDITION THAT IS NOT IDENTIFIED, PROVIDE MATERIAL OR FINISH THAT CLOSELY MATCHES SIMILAR CONDITIONS IN OTHER AREAS OF ROOM OR BUILDING.

G. SEE SHEET A-271 FOR NEW ROOM DESIGN AND SEE SHEET A-171 FOR EXISTING ROOM CONDITIONS. ANY EXISTING EXPOSED FINISH THAT IS TO REMAIN SHALL BE CLEANED, PATCHED, REPAIRED OR REFINISHED TO LIKE-NEW CONDITION.

## SCOPE OF WORK

THIS CLASSROOM PROJECT CONSIST OF:

WALLS OF CLASSROOMS 110 AND 114.

F.O.F. FACE OF FINISH

1. WORK ON THE CLASSROOM OFFICE BUILDING (COB) FIRST FLOOR LEVEL CLASSROOMS 110 AND 114.

2. REMOVAL OF WALL MOUNTED FIXTURES, FURNISHING, AND EQUIPMENT AS REQUIRED ON THE NORTH AND SOUTH

3. INSTALLATION OF NEW CARPET WITH TRANSITION MOULDING.

4. REMOVE, REPAIR AND RE-INSTALL EXTERIOR DOOR SILLS TO ELIMINATE LEAKS FROM RAIN.

OPNG OPENING

5. PATCH, PRIME, AND PAINT EXISTING GYPSUM WALL FINISH TO LIKE NEW CONDITION. PAINT (E) WOOD WALL BASE, COLOR — SEE FINISH SCHEDULE.

6. INSTALL ACOUSTICAL PANELS ON WALLS AND RE-INSTALL ANY FIXTURES, FURNISHINGS, AND EQUIPMENT REMOVED FOR WORK TO LIKE NEW CONDITION.

7. INSTALLATION OF NEW CEILING PENDANT MOUNTED VIDEO PROJECTOR AND WALL MOUNTED RETRACTABLE SCREEN IN CLASSROOM 114.

8. ADD SEISMIC RESTRAINT SYSTEM TO (E) VIDEO PROJECTOR PENDANT MOUNT IN CLASSROOM 110.
SYSTEM SHALL BE DESIGN/BUILD AS RECOMMENDED BY PENDANT MOUNT MANUFACTURER AND SHALL BE ABOVE NEW ACOUSTICAL CEILING FINISH. SYSTEM SHALL BE INDEPENDENT FROM NEW CEILING.

9. INSTALL FIRE SPRINKLER EXTENSION FROM EXISTING SYSTEM TO EXTEND SPRINKLER HEADS BELOW NEW LAY—IN CEILING TILE GRID SYSTEM TO MEET FIRE DEPARTMENT REQUIREMENTS. THIS SHALL BE A DESIGN/BUILD SYSTEM MEETING APPLICABLE NFPA CODES AND CAMPUS FIRE MARSHAL REQUIREMENTS. THERE ARE NO DRAWINGS OR SPECIFICATIONS RELATED TO THIS WORK AS PART OF THIS PACKAGE.

10. REPOSITION EXISTING WALL MOUNTED ILLUMINATED "EXIT" SIGNS AT EACH DOOR TO CEILING MOUNTED SYSTEM IN NEW ACOUSTICAL LAY—IN CEILING SYSTEM. THIS SHALL BE DESIGN/BUILD WORK MEETING UNIVERSITY AND BUILDING CODE REQUIREMENTS. THERE ARE NO DRAWINGS OR SPECIFICATIONS RELATED TO THIS WORK AS PART OF THIS PACKAGE.

11. INSTALL NEW 2'x2' LAY-IN ACOUSTICAL CEILING SYSTEM.

12. PROVIDE RECTANGLE TO ROUND TRANSITION AT EACH (E) HVAC SUPPLY VENT REGISTER OPENING. EXTEND 10" ROUND BLACK FLEX DUCT FROM TRANSITION TO CEILING DIFFUSER. THIS SHALL BE DESIGN/BUILD WORK. SEE SCHEMATIC LAYOUT ON SHEET A-271. ALL HVAC DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA "HVAC DUCT CONSTRUCTION STANDARDS — METAL AND FLEXIBLE, THIRD EDITION, 2005"

13. REPLACE ANY BURNED OUT LIGHT BULBS, REPAIR, AND CLEAN EXISTING PENDANT LIGHT FIXTURES TO LIKE—NEW CONDITION. ADD SEISMIC RESTRAINT SYSTEM TO PENDANT LIGHT FIXTURES. THIS SHALL BE A DESIGN/BUILD SYSTEM MEETING UNIVERSITY REQUIREMENTS. THERE ARE NO DRAWINGS OR SPECIFICATIONS RELATED TO THIS WORK AS PART OF THIS PACKAGE.

14. PROVIDE WALK-OFF FLOOR MAT AT EACH ENTRY DOOR.

15. GLASS BREAK DETECTION WORK BY OTHERS.

16. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2011 NATIONAL ELECTRIC CODE (NFC).

17. ALL PLUMBING WORK SHALL CONFORM TO THE 2010 CALIFORNIA PLUMBING CODE.

## DEFERRED APPROVAL

(\* SECURITY ALARM SYSTEMS )

REVIEW BY THE BUILDING OFFICIAL.

\* FIRE PROTECTION SYSTEM MODIFICATION DESIGN AND SHOP DRAWINGS

\* WALL MOUNTED ACOUSTICAL PANEL SHOP DRAWINGS

DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL. THE REGISTERED DESIGN

PROFESSIONAL IN RESPONSIBLE CHARGE SHALL LIST THE DEFERRED SUBMITTALS ON THE CONSTRUCTION DOCUMENTS FOR

# UCIVERCEL

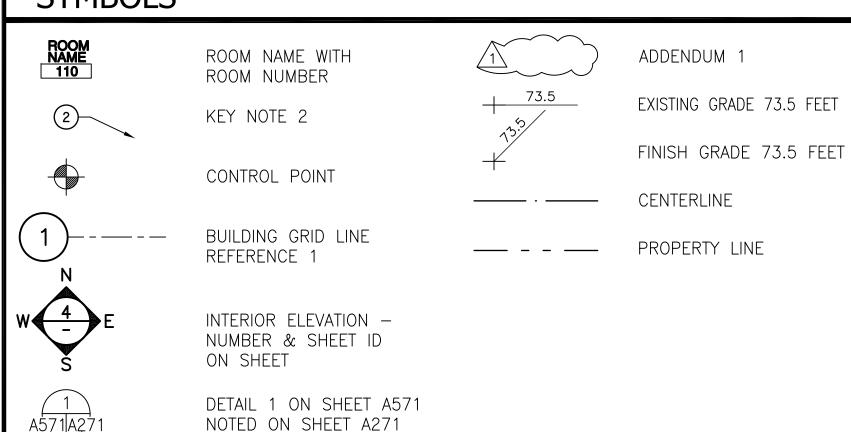
UNIVERITY OF CALIFORNIA, MERCED

# CLASSROOM AND OFFICE BUILDING ROOMS 110 AND 114 RENOVATIONS

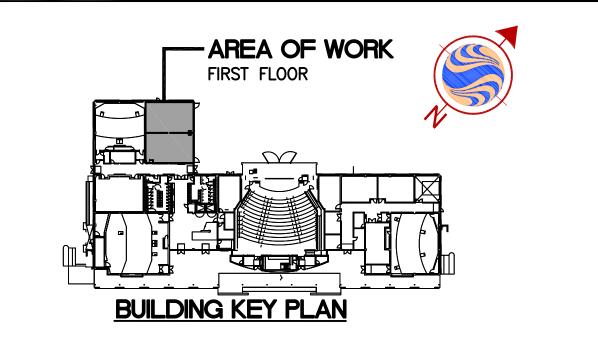
## SHEET INDEX

DRAWING ORDER	DRAWING NUMBER	DRAWING TITLE
1	A071	COVER SHEET, SYMBOLS, NOTES, AND SCHEDULES
2	A171	EXISTING FLOOR PLANS AND REFLECTED CEILING PLANS
3	A172	EXISTING INTERIOR ELEVATIONS
4	A271	NEW FLOOR PLANS AND REFLECTED CEILING PLANS
5	A272	NEW INTERIOR ELEVATIONS
6	A272a	NEW INTERIOR ELEVATIONS (BID ALTERNATE)
7	A571	CLASSROOM REMODEL DETAILS

## **SYMBOLS**



## CAMPUS MAP AND KEY PLAN





## **JC**Merced

University of California Merced, California

Proiect Name:

Classroom and
Office Building
Rooms 110 & 114
Renovations

Project Number: 907015

Civil Engineer:

**Stantec** 

Stantec Consulting Services Inc.
1016 12th Street
Modesto, CA 95354
(209) 521-8986
(209) 521-9045 fax
www.stantec.com

Stantec Consulting Services Inc.

MECHANICAL ENGINEER / ELECTRICAL ENGINEER

370 N Wiget Lane, Suite 210

Walnut Creek, CA 94598

(925) 941-1400

opyright Reserved

The Contractor shall verify and be responsible fo all dimensions. DO NOT scale the drawing — any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Drawing Stage:

100% CONSTRUCTION

DOCUMENTS

Coals and Simple wast

Seals and Signatures:

UNIVERSITY OF CALIFORNIA, MERCED FIRE MARSHAL Approval of this plan does not authorize or approve any omission or deviation from applicable

regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

JCM Project No.: 906050

IDENTIFICATION STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
FILE NO. 01-UC MERCED
APPL. NO.

AC\_\_\_FLS\_\_\_SS\_\_\_

DATE:

Drawn By: MH, BV, BW

ADDENDUM #2 08.07.12

Revision Date: 06.26.2012
Plot Date: 06.26.2012
Scale: AS NOTED

Key Plan

ADDENDUM 2



Know what's below.
Call before you dig.

Drawing Title:

COVER SHEET SYMBOLS NOTES AND SCHEDULE

Sheet Number:

1

110\active\2010104600\ -8-15 17:31 By: cbarkr

ORIGINAL SHEET — ARCH E1

