

June 7, 2024

Franklin Building Roof Replacement Project

Project No.: TBD

Addendum No. 1: Bidding Documents Revision and RFI Responses

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents. Acknowledge receipt of this addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

I. Bidding Documents Revision

1. Bid Form:

The estimated quantity for the unit price is revised to 6,000 SF in section 6.0.

2. Specification Table and Division 1:

Corrected Project Number: TBD.

3. Bid Addendum 01 Drawing Set Updates:

a. Sheet A-102 Existing Roof Removal Note Added -

“3. Roofing contractor is to remove existing PMMA coating from Roof 4.1 guardrail bolts and plates as required to allow SIT-CO to remove and reinstall the railing following installation of new flashing. Removal is to be performed in a manner that does not damage the steel bolts or strip the threads on the bolts and nuts.”

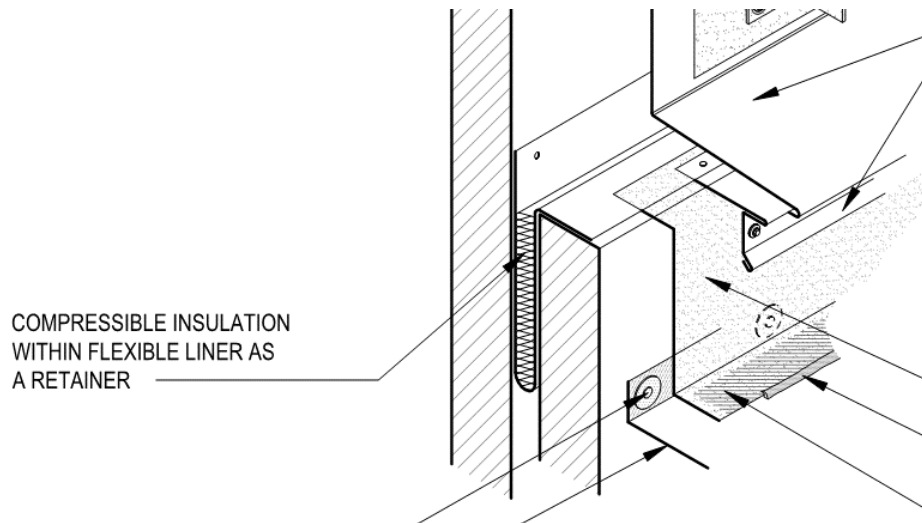
b. Sheet A-502, Detail 2 -Parapet Wall Expansion Joint Detail Note Update –

“Demo (E) backer rod between precast concrete parapet and lower, mtl. stud parapet.

Install (N) fiberglass compressible insulation within (N) EPDM liner as a retainer.”

II. RFIs

1. On plan A-502 detail 2. It calls for compressible Insulation in a flexible liner. What products are we being asked to install? Does it require a Fire rating? Is this to be treated like an expansion joint or just a gap?



Response:

- What products are we being asked to install?

At this location:

- Contractor to demo (E) backer rod between precast concrete parapet and lower, metal stud parapet.
- Contractor to install (N) fiber glass compressible insulation within (N) EPDM liner as a retainer.

Detail 2/ A-502 amended to identify demolition scope and products to be installed. See Bid Addendum 01 drawing set.

- Does it require a Fire rating?

This detail does not require fire rating.

- Is this to be treated like an expansion joint or just a gap?

It is to be treated as a gap.

2. I am running into an issues with the manufacturers listed in the specification that has a tested and approved SBS base sheet in adhesive to LWIC. I am being told to assume mechanical attachment of the base sheet in lieu of adhesive since that is tested for wind uplift requirements as described in the specification. Will that be acceptable?

Response:

It is acceptable to use mechanical attachments in lieu of adhesive for applying the SBS base sheet to the LWIC.

3. If we cannot get a manufacturer that has an approved adhered base sheet. But we can provide a manufacturer that allows foam adhesive of a Dens Deck Prime direct to LWIC. Can we remove the base sheet from the system and provide a credit for the reduced scope and cost?

Response:

It is acceptable to adhere the coverboard to the LWIC with a foam adhesive. In this application, the base sheet may be removed.

4. Will crane usage be allowed on weekends for less disruption?

Response:

Yes, we will allow use of crane with mutually agreeable date and time planned out in advance. Any sidewalk/street disruption and permit would need to be arranged with the City of Oakland and paid by the Contractor .

5. The bid form has us carrying \$50,000 for the rail contractor but we will be using them under T&M. If the cost goes over 50K, will the University issue a Change order to cover the overage? Same as if the 50K is not used under T&M. Will we issue a deductive Change Order back to the University for the unused funds?

Response:

Yes to both – additive change order for overage and deductive change order if underused.

6. Since we are carrying the rail sub in our contract. This will trigger mark up to the billed amount from the railing sub by us for management, overhead and profit. Please verify this is understood by the University.

Response:

The billing for the markup will be prorated based on the percentage of allowance used.

Attachments:

Updated Bid Form
Updated Specification Table and Division 1
Updated Drawings Sheets A-102 & A-502

BID FORM

FOR: FRANKLIN BUILDING ROOF REPLACEMENT PROJECT
UNIVERSITY OF CALIFORNIA
OFFICE OF THE PRESIDENT
1111 FRANKLIN STREET, OAKLAND, CA
MAY 21, 2024

BID TO: UNIVERSITY OF CALIFORNIA, OFFICE OF THE PRESIDENT
Work Management Center
Building and Administrative Service Center
1st Floor
1111 Franklin Street, Oakland, CA 94607
Attention: Jihee Lee, Facilities Project Manager
Tel: 510-914-2073

BID FROM: _____
(Name of Bidder)

(Address)

_____, _____, _____
(City) (State) (Zip Code)

(Telephone Number)

(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 132 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's Facility at the appropriate address stated on Page 1 of this Bid Form. 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.)

Bidder includes in the Lump Sum Base Bid the following allowances:

\$50,000 for Detaching and re-attaching of guardrails per Sheet Note #2 on Sheet A-102. The contractor shall bill for the actual cost based on time and materials.

5.0 SELECTION OF APPARENT LOW BIDDER

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

6.0 UNIT PRICES

The quantities set forth in the Unit Prices are estimates. University does not represent that the actual quantity of any Unit Price item will equal the Estimated Quantity stated below. University will perform the extension of the Unit Price times the respective Estimated Quantity.

Unit Price for As-needed patch and repair of light-weight concrete beneath existing roofing membrane as specified in Section 07 01 50 Part 4 Sec 2.02. E.

Estimated Quantity of units: 6,000 SF

\$, . per SF

(Place Unit Price figures in appropriate boxes.)

7.0 DAILY RATE OF COMPENSATION FOR COMPENSABLE DELAYS WITH TWO OPTIONS

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. A Facility may choose a minimum compensable delay in the best interests of the Project. If so, use the language in parentheses { } and in grey highlight:

\$, . x 10 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 ____

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)
						<input type="checkbox"/> SBE <input type="checkbox"/> DVBE <input type="checkbox"/> N/A
						<input type="checkbox"/> SBE <input type="checkbox"/> DVBE <input type="checkbox"/> N/A
						<input type="checkbox"/> SBE <input type="checkbox"/> DVBE <input type="checkbox"/> N/A
						<input type="checkbox"/> SBE <input type="checkbox"/> DVBE <input type="checkbox"/> N/A
						<input type="checkbox"/> SBE <input type="checkbox"/> DVBE <input type="checkbox"/> N/A
						<input type="checkbox"/> SBE <input type="checkbox"/> DVBE <input type="checkbox"/> 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 _____.
(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)
2. Contractor's Special Statement of Experience

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)

SPECIFICATIONS

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DIVISION 01 – GENERAL REQUIREMENTS

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	01 60 00	Product Requirements
	01 70 00	Execution and Closeout Requirements
	01 80 00	Performance Requirements
	01 90 00	Commissioning

TECHNICAL SPECIFICATIONS

Section 011100	Summary of Work
Section 061000	Exterior Rough Carpentry
Section 070150	Preparation for Reroofing
Section 075400	Thermoplastic Membrane Roofing
Section 076200	Sheet Metal Flashing And Trim
Section 079200	Joint Sealants
Section 221426.13	Roof Drains

1299 Newell Hill Place, Suite 100
Walnut Creek, CA 94596

- d. Project Inspector: University of California – UCB Building Dept.
- e. Contractor: The successful bidder, to whom the Contract is awarded.

5. Definitions

- a. The following terms, when used on the Drawings and/or in the Specifications, shall have the following meanings:

TERM	MEANING
Adequate; Careful; Proper; Sufficient; Suitable; Satisfactory	These terms refer to interpretation by Owner's Representative, and are subject to approval upon request.
Applicable Codes	"Codes listed in Section 01 41 00." referencing the Regulatory Requirements.
Approved	"As approved by Owner's Representative."
As Directed	"As directed by Owner's Representative."
As Required	"As required by Applicable Code Requirements; by industry best practices; by the conditions prevailing; by the Contract Documents; by Owner, or by Owner's Representative."
As Selected	"As selected by Owner's Representative."
By Others	Work on this Project that is outside the scope of Work to be performed by Contractor under this Contract, but that will be performed by Owner, other Contractors, or other means.
Equal	Of same quality, appearance, and utility to that specified, as determined by Owner's Representative. Contractor bears the burden of proof of equality.
Furnish	"Supply only, not install (unless required to be provided or installed elsewhere in the Contract Documents)."
Include/Including	"Include/including, without limitation."
Install	"Install or apply only, not furnish (unless required to be provided or furnished elsewhere in the Contract Documents)."
Manufacturer's Directions, Instructions, Recommendations, and/or Specifications	Manufacturer's written directions, instructions, recommendations, specifications.
Must; shall; to; will	When used as a directive to Contractor, these terms indicate a mandatory action.
Necessary	"Essential to completion of Work."
Owner-Furnished, Contractor Installed (OFICI)	"To be furnished by Owner at its cost, and installed by Contractor as part of the work."
Project Site; Job Site	Geographical location of the Project.

Provide	"Furnish and install."
Shown	"As indicated on the Drawings".
Specified	"As written in the Contract Documents."
Submit	"Submit to Owner's Representative."

6. Inconsistencies In Contract Documents

- a. In addition to the requirements of the General Conditions, if there is an inconsistency in the Contract Documents, the stricter, more stringent standards and requirements shall be followed at no additional cost to Owner.

7. Publicity Releases

- a. Do not release any information, story, photograph, plan or drawing relaying information about the project to anyone, including press or other public communications medium without prior written permission from the University.

8. Notification

- a. Notify Owner's Representative not less than five (5) working days in advance of any inspection, meeting or consultation requiring the Owner's Representative's presence.

01 12 00 MULTIPLE CONTRACT SUMMARY

- 1. Not Used

01 14 00 WORK RESTRICTIONS

- 1. Work Hours

- a. All works to be performed during normal hours from 6 AM to 6 PM weekdays and on weekends with approved written advance notices.
- b. All roto-hammering, chipping, doweling, pneumatic fastening, or any other activity that may cause excessive noise and/or vibration shall be performed between outside of 8 am to 5 pm window during the weekdays and must be scheduled with the Owner's Representative ten (10) working days before the activity commences. Such work occurring near residences shall be scheduled to cause the least possible disturbance to residents.
- c. Major demolition debris shall not be removed through the interior of the building.
- d. Alterations to the above contract requirements may be made in advance by the University Representative.

01 20 00 PRICE AND PAYMENT PROCEDURES

01 22 00 UNIT PRICES

- 1. Work Included

- a. Provide the Owner with Unit Prices specified herein.
- b. Specifications for Work Requiring Unit Prices: See applicable Sections.

2. Description of Unit Prices

- a. Provide the following Unit Price(s) in the appropriate spaces on the Bid Form:
 - i. As-needed patch and repair of light-weight concrete beneath existing roofing membrane as specified in section 07 01 50 Part 4 Sec 2.02. E.
- b. Amount of unit prices includes:
 - i. The cost of materials and installation billed to the Contractor, including taxes.
 - ii. Delivery to the site (or removal from site and legal disposal of materials).
 - iii. Handling of materials at the site, including unloading and storage.
 - iv. Other expenses required to complete the installation.
 - v. Contractor's and Subcontractor's overhead and profit.

3. Contractor Responsibility for Installation

- a. On notification of selection, enter into agreement with designated Subcontractor.
- b. Arrange for and process product data and samples as required.
- c. Install and finish products in compliance with requirements of referenced Specifications Sections.

4. Adjustment of Cost

- a. Base bid price shall be inclusive of all work shown and specified on the drawings and specifications. Unit Prices shall be the basis for determining payment to the Contractor for work, incorporated into the contract with a Change Order, over and above (or less than) that work shown on the drawings and specifications.
 - i. Quantities installed shall be determined by field measurements. After performing Unit Price work as directed by Owner's Representative, Contractor shall take necessary measurements in the presence of the Owner's Inspector and shall submit calculation of quantities to the Owner for approval. Contractor shall notify the Owner one (1) day in advance of taking measurements.
- b. At Contract closeout, reflect all approved changes in Contract Sum in the final statement of accounting.

01 23 00 ALTERNATES – Not used

1. Work Included

- 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 Owner, 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 drawings.
- e. Coordinate related Work and modify surrounding Work as required to properly and completely integrate the Alternates into the Work.
- f. The Lump Sum Base Bid shall include all work shown except work described as Alternates.
- g. The Alternates described below are intended to:

- i. Allow the Owner to identify the cost of a portion of the work for funding purposes, and
 - ii. Provide the Owner flexibility to adjust the project scope to suit funds available.
- h. The Owner reserves the right to award none, any one or more selected in any order, or all of the Alternates in combination with the work covered by the Lump Sum Base Bid. Alternates shall not be awarded without awarding the Lump Sum Base Bid.
- i. The Owner reserves the right to determine the low bid as the Lump Sum Base Bid alone or the sum of the Lump Sum Base Bid and any combination of Alternates it chooses to award. The bid documents shall identify the evaluation method to be used for choosing the alternates for purposes of identifying the low bid.
- j. Each Alternate is intended to cover all of the work required for a complete finished job.
- k. All Alternates are either "additive" or "deductive" or "No Change" (as appropriate) to the Lump Sum Base Bid. The amounts shall be quoted in the appropriate spaces provided on the form for the Bid for Lump Sum Contracts.
- l. Failure to either quote an amount; select the "No Change" option or the insertion of the words "no bid," "none" or words of similar import, shall be considered as not completing the Bid for Lump Sum Contract and may constitute disqualification of the entire bid at Owner's discretion.
- m. The Base Bid and the Alternates are exclusive in their scope of work. There is no overlap between or among the Base Bid and Alternates. The cost of any item of work shall be included only once, in the Base Bid or in the Alternates.

2. Alternate Descriptions

01 25 00 SUBSTITUTION PROCEDURES

01 25 13 *PRODUCT SUBSTITUTION PROCEDURES*

1. Substitution of Materials and Equipment

- a. Catalog numbers and specific brands of trade names followed by the designation "or equal" are used in conjunction with the material and equipment required by the Specification to establish the standards of quality, utility and appearance required. Substitutions which are equal in quality, utility and appearance to those specified may be accepted subject to the following provisions:
 - i. All substitutions must be approved by the Owner's Representative in writing.
 - ii. Contractor shall submit to the Owner's Representative, within (10) ten calendar days after the date of commencement specified in the Notice to Proceed, a typewritten list containing a description of each proposed substitute item or material, along with the documents required by Paragraph 1.1C.
 - iii. The Owner's Representative will accept, in writing, such proposed substitutions as are, in the Owner's Representative's opinion, equal in quality, utility and appearance to the items or materials specified.
 - iv. Such approval shall not relieve the Contractor from complying with the requirements of the drawings and specifications.
 - v. Contractor shall be responsible at the Contractor's own expense for any changes resulting from the Contractor's proposed substitution which affect other parts of the Contractor's own work or the work of others.
 - vi. The decision of the Owner's Representative shall be final.

- b. If a request for substitution occurs after the period specified in paragraph a, ii, (above), the substitution may be reviewed at the discretion of the Owner's Representative; and the costs of such review, as approved by Owner, shall be borne by Contractor and will be deducted from or added to the Contract Sum.
- c. Requests for substitutions will only be considered if Contractor submits the following supporting data:
 - i. Complete technical data including drawings, performance specifications, samples and test reports of the article proposed for substitution; and any additional information required by the Owner's Representative.
 - ii. Data described in Subparagraph C-1 for the specified item for which substitution is proposed.
 - iii. List similar projects using product, dates of installation, and names of Owner and Owner's Representative.
 - iv. Statement by Contractor that the proposed substitution is in full compliance with the requirements of the Contract Documents and Applicable Code Requirements.
 - v. Itemized comparison of proposed substitution with specified product, listing variations, and reference to Specifications section name and number, article and paragraph numbers.
 - vi. List availability of maintenance services and replacement materials.
 - vii. List of Subcontractors, if any, that may be affected by the substitution.
 - viii. If the proposed substitution requires that portions of the work be redesigned or removed in order to accommodate the substituted item, submit design and engineering calculations prepared by a properly licensed design professional.
- d. The Owner's Representative may reject any substitutions not proposed in the manner and within the time prescribed above.
- e. For products specified by naming only one product and manufacturer, without the qualifying phrase "or equal" there is no option, and no substitution will be allowed. Such is the case with products, materials, equipment or systems which are specified for the purpose of matching a specific function or economy of maintenance of other products, materials, equipment or systems already in use in existing portions of the University's installations. Where matching with an existing item is required, the final decision whether a product proposed matches the item satisfactorily is University Representative's judgment.
- f. The ten (10) calendar day submittal period does not excuse the Contractor from completing the Project within the performance time stipulated in the Agreement or excuse the Contractor from the payment of liquidated damages if final completion is delayed.
- g. Wherever more than one manufacturer's product is specified, any of the specified products are acceptable and a substitution request is not required; however, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturer's products or substitutes may require dimensional modification in the project design and construction and resulting adjustments in location of related work. If such alternatives are proposed by Contractor in accordance with submittal requirements and are favorably reviewed by the Owner's Representative, Contractor shall assume all costs required to make necessary

dimensional revisions and modifications. Such approval will not be unreasonably withheld.

- h. If the Owner's Representative, in review of the list of materials and equipment, requires revisions or corrections to be made or shop drawings and/or supplemental data to be submitted, Contractor shall promptly do so. If any proposed substitute is judged by the Owner's Representative to be unacceptable, the specified item shall be provided; further submissions will not be allowed, unless directed by the Owner's Representative.
- i. Samples may be required. Tests required by the Owner's Representative for the determination of the quality and utility shall be made by Contractor's Testing Laboratory, and at the expense of Contractor, with acceptance of the test procedure first given by the Owner's Representative.
- j. In review of the data submitted in support of substitutes, the Owner's Representative will use for purposes of comparison all the characteristics of the specified item as they appear in the manufacturer's published data even though all the characteristics of the specified item may not have been particularly mentioned in the specification. If more than two (2) submissions of data are required, the cost of reviewing these additional submissions shall be charged directly against the Contractor; and the Owner will withhold the funds necessary to cover these costs.

2. Anchors and Fasteners

- a. Submit manufacturer's literature and calculations for anchoring and fastening devices to Owner's Representative for approval.
 - i. For concrete, use two-piece cinch anchors, epoxied anchors and/or wedge anchors, as appropriate for conditions and function.
 - ii. The use of pneumatic-driven anchors or fasteners and power-driven or powder-driven anchors or fasteners is prohibited.
 - i. For concrete, except as listed below, use two-piece cinch anchors, epoxied anchors and/or wedge anchors, as appropriate for conditions and function. Concrete nails are not permitted.
 - ii. The use of low velocity powder-activated tools is permitted only for the conditions described below. The use of medium and high velocity powder-activated fasteners as defined by ANSI A10.3 is prohibited.
 - a. Permitted Uses of Low Velocity Powder-Actuated Fasteners:
 - i. Anchoring metal track for interior non-load bearing walls. Note: Door frames shall be fastened with two-piece expansion anchors.
 - ii. Fastening of furring strips to concrete walls.
 - iii. Temporary fastening and concrete forming.
 - iv. Installation of incidental straps and wires used to suspend the following:
 - a. Metal duct work of 25 pounds per linear foot or less;
 - b. Piping of 1" diameter or less;
 - c. Electrical conduit of 2" diameter or less.
 - v. Fastening of plaster accessories, flashing and similar items with negligible loading.
 - b. Requirements for Low Velocity Powder Actuated Fasteners.
 - i. Minimum shank: .143 inch diameter; minimum penetration: 1.25 inches for 3000 psi concrete; minimum rated tensile strength: 310

- lbs; minimum rated shear strength: 420 lbs. Contractor shall submit calculations to substantiate selection.
- ii. Weight suspended from each connection shall not exceed 200 lbs.
 - iii. Where designated by Owner's Representative, anchors, fasteners and ties installed utilizing low velocity powder-actuated tools will be tested by an independent testing laboratory to resist two times the design load. Any such anchor, fastener or tie which fails such a test shall be replaced by Contractor at no cost to Owner.
- c. Procedures for use of low velocity powder actuated tools:
- i. The use of low velocity powder actuated tools shall comply with Federal OSHA safety requirements and California Code of Regulations Title 24, including the requirement that the operator of the tool be trained and certified. Submit certification to Owner's Representative.
 - ii. Submittal of manufacturer's literature and calculations for anchoring and fastening devices shall include load calculations and minimum spacing for fasteners for each specific use. Design for a factor of safety of two times allowable load. Calculations shall be signed by Contractor's structural engineer. Structural engineer shall be registered in California.
 - iii. Conform to SMACNA low velocity shotpin installation requirements.

01 26 00 CONTRACT MODIFICATION PROCEDURES

01 26 39 FIELD ORDERS

1. Field Clarifications and Field Orders

- a. From time to time it may become necessary to issue Field Clarifications to the Contractor for minor changes not affecting Contract Sum or Contract Time.
- b. Where the change affects the Contract Sum or the Contract Time, and to minimize delays, a Field Order may be issued.
- c. A Field Order will be superseded by a Supplement and, subsequently, an executed Change Order.

01 26 63 CHANGE ORDERS

1. Supplements

- a. When construction changes are proposed, they will be originated with a Supplement issued by the Owner's Representative to the Contractor.
- b. Supplements will be numerically sequential and may include multiple items.
- c. Supplements may be issued due to changes requested in the Project by the Owner, the Owner's Representative or the Contractor.
- d. Supplements are not Change Orders; however, some Supplements may become Change Orders.
- e. The Contractor shall prepare a Cost Proposal (backup) in response to the Supplements as rapidly and accurately as possible.

2. Contractor's Cost Proposal (Backup)

- a. Following receipt of a Supplement, the Contractor shall prepare an estimate of cost and/or time for execution of the proposed change which, if accepted, will become the backup for a Change Order (i.e., Cost Proposal).

- b. The Cost Proposal shall identify each item of work affected by the proposed change, value of the change, and a summary of overhead, profit, total cost and any time extension request.
- c. Cost Proposals shall show, as applicable, General Contractor's, Subcontractor's, and Sub-Subcontractor's work. Cost Proposals shall also show detailed breakdown of material, labor, etc., plus applicable percentages for overhead and profit as provided in the General Conditions.
- d. Contractor shall provide quotations for Supplements on Exhibit 7: Cost Proposal as provided in the Contract Documents. No other form of quotation will be accepted by the Owner's Representative. The Contractor may, however, attach additional documentation to Exhibit 7.

3. Change Orders

- a. Change Orders will be numerically sequential and may include multiple change items.
- b. Change Orders will reference (at a minimum):
 - i. Owner's Representative's Supplement Number(s) and Date(s),
 - ii. Contractor's Cost Proposal Number(s) and Date(s),
 - iii. Other applicable written documentation (i.e., meeting notes, Requests For Information, etc.).
- c. All Change Orders will be appended with Contractor's Backup (Supplements, Cost Proposals, or any other written documents referenced in the Change Order).
- d. Change Orders will adjust Contract Sum and/or Contract Time as applicable.
- e. Following receipt and acceptance of Contractor's Backup, Change Orders will be prepared and issued by the Owner's Representative. The Owner's Representative will transmit the Change Order (with backup) to the Contractor for signature. The Contractor will then return the Change Order (with backup) to the Owner (labeled "Attention: Project Manager") for final execution.
- f. The Owner's Representative, the Contractor, and the Owner shall sign each original part of the Change Order in ink.
- g. Upon execution by the Owner's Representative, Contractor and Owner, the Change Order will become part of the Contract Documents.
- h. The Contractor shall not bill for a Change Order on the Application for Payment prior to its execution by the Owner. The Owner's Representative will not approve the portion of any Application for Payment which bills for a Change Order not yet executed by the Owner.

4. Project Schedule

- a. Contractor shall adjust its construction schedule to reflect fully-executed Change Orders (if any), in accordance with the General Conditions.

01 30 00 ADMINISTRATIVE REQUIREMENTS

01 31 00 PROJECT MANAGEMENT AND COORDINATION

- 1. Coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.
- 2. Anticipate the interrelationship of all subcontractors and their relationship with the Work.
- 3. Resolve differences or disputes between subcontractors concerning coordination, interference or extent of the work between sections.
- 4. 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.

5. Do not obstruct spaces and installations that are required to be clear by Applicable Code Requirements.
6. Do not cover any piping, wiring, ducts or other installations until they have been inspected and approved and required certificates of inspection issued.
7. Remove and replace all work which does not comply with the Contract Documents. Repair or replace any other work or property damaged by these operations with no adjustment of Contract Sum.
8. 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 the Owner's Representative.

01 31 19 *PROJECT MEETINGS*

1. Procedure Meetings
 - a. After execution of the construction contract, and typically prior to commencement of the Work, a Procedure Meeting (kick-off meeting) will be conducted by Owner to discuss and review procedures which are to be followed during performance of the Work. The Contractor and Owner's Representative shall be prepared to review job schedules, discuss various aspects of the work, and administrative procedures for smooth job progress.
 - b. Location: As designated by Owner.
 - c. Attending shall be:
 - i. Owner's Representative.
 - ii. Owner.
 - iii. Owner's Project Inspector
 - iv. Owner's Consultants and Owner's Representative's Consultants, as appropriate.
 - v. Contractor.
 - vi. Contractor's Superintendent.
 - vii. Subcontractors, as appropriate.
 - viii. Others, as appropriate.
2. Billing Meeting
 - a. A Billing Meeting shall be conducted by Owner's Representative each month prior to submittal of the Application for Payment.
 - b. Location: As designated by Owner's Representative.
 - c. Attending shall be:
 - i. Owner's Representative.
 - ii. Owner.
 - iii. Owner's Project Inspector.
 - iv. Owner's Consultants and Owner's Representative's Consultants, as appropriate.
 - v. Contractor.
 - vi. Contractor's Superintendent.
 - vii. Subcontractors, as appropriate.
 - viii. Others, as appropriate.
3. Progress Meetings

- a. During the course of construction, Progress Meetings will be held to review progress of the work and resolve construction problems. The written record of these meetings shall be prepared by the Owner's Representative and issued as expeditiously as possible to:
 - i. Owner's Representative.
 - ii. Owner.
 - iii. Owner's Project Inspector.
 - iv. Owner's Consultants and Owner's Representative's Consultants, as appropriate.
 - v. Contractor.
 - vi. Contractor's Superintendent.
 - vii. All meeting participants.
 - viii. Others, as appropriate.
 - b. Location: As designated by Owner's Representative.
 - c. Attending shall be:
 - i. Owner's Representative.
 - ii. Owner.
 - iii. Owner's Project Inspector.
 - iv. Owner's Consultants and Owner's Representative's Consultants, as appropriate.
 - v. Contractor.
 - vi. Contractor's Superintendent.
 - vii. Subcontractors, as appropriate.
 - viii. Others, as appropriate.
4. Warrantees/Guarantees, Bonds, and Service and Maintenance Contracts Review Meeting
- a. Eleven (11) months following the date of Beneficial Occupancy, Substantial Completion, if applicable, or Final Completion, a meeting shall be conducted by Owner for the purpose of reviewing the warrantees/guarantees, bonds, and service and maintenance contracts for materials and equipment.
 - b. Attending shall be:
 - i. Owner.
 - ii. Owner's Consultants, as appropriate.
 - iii. Contractor.
 - iv. Subcontractors, as appropriate.
 - v. Others, as appropriate.

01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION

01 32 13 SCHEDULING OF WORK

1. Submission:
 - a. Within ten (10) calendar days after receipt of Notice of Apparent Lowest Responsible Bidder, submit detailed Preliminary Cost Breakdown with other required documents to Owner, and to Owner's Representative for approval.

- b. Submit the Contract Schedule, in a form acceptable to Owner's Representative, within ten (10) calendar days of the date of commencement as specified in the Notice To Proceed.
- c. The Owner's Representative will determine acceptability of the Contract Schedule within seven (7) calendar days after its receipt.
- d. No Application for Payment will be processed nor shall any progress payment become due until the Contract Schedule is approved by the Owner's Representative.
- e. Submit Material and Safety Data Sheets (MSDS) within ten (10) calendar days of the date of commencement as specified in the Notice To Proceed. MSDS must be kept on the job site throughout the course of work.

2. Form:

- a. The Contract Schedule shall be a bar chart showing continuous flow from left to right, specific calendar dates shall be clearly and legibly shown for the start and finish of each work activity.
- b. The Contract Schedule shall be suitable for monitoring progress of the Work, in sufficient detail to demonstrate adequate planning for the Work, and represent a practical plan to complete the work within the Contract time and within the dates shown on the Notice To Proceed.
- c. Identify the following milestone event on the Contract Schedule:
 - i. Order all equipment and start shop fabrication after signing the Construction Contract.
- d. Determine in advance and allow for special events, final examinations or other activities where Owner will not permit noisy, dusty and disruptive construction work.
- e. Identify all University holidays and other non-working days on the Contract Schedule.

3. Activities:

- a. Submit list of major Contractor-furnished equipment, materials and building elements, and scheduled activities requiring Owner's Representative's prior approval. Dates shall be shown for the procurement, fabrication, delivery and installation of major equipment, materials and building elements, and for scheduled activities designated by Owner's Representative. A minimum of fourteen (14) calendar days (modify as appropriate) shall be allotted for the Owner's Representative to review each submittal.
- b. Submit system test dates.
- c. Submit Contractor's requests for designated working spaces, storage areas, access and other facilities to be provided by Owner.
- d. Submit Contractor's request for orders and decisions that would be required from Owner's Representative on other designated items.
- e. Provide dates for penetrating existing structures.
- f. 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.

01 32 16 CONSTRUCTION PROGRESS SCHEDULE

- 1. Preliminary Contract Schedule
 - a. Submission:

- i. Submit the Preliminary Contract Schedule to Owner's Representative within ten (10) calendar days after receipt of the Notice of Selection as Apparent Lowest Responsible Bidder.
 - ii. Within seven (7) calendar days after receipt of the Preliminary Contract Schedule, Owner's Representative will notify Contractor of its acceptance of, or its review comments about, the schedule so that appropriate adjustments can be made by Contractor in the development of the Contract Schedule.
 - b. Form:
 - i. Prepare the Preliminary Contract Schedule as a C&DM, time-scaled network diagram showing continuous flow from left to right and a Contract Schedule as a bar chart showing continuous flow from left to right. Specific calendar dates shall be clearly and legibly shown for the start and finish of each Work Activity.
 - ii. Identify the following milestone events on the Preliminary Contract Schedule:
 - 1. Rough-Outs (Mechanical; Electrical; Plumbing; HVAC)
 - 2. Trim:
 - a. Plumbing
 - b. Electrical
 - c. HVAC
 - 3. Interior Drywall/Plaster
 - 4. Finishes:
 - a. Painting
 - 5. Final Inspection and correction of any deficiencies.
 - 6. Beneficial Occupancy or Substantial Completion.
 - 7. Punchlist Items
 - iii. Identify all University holidays and other non-working days on the Preliminary Contract Schedule.
 - c. Activities: Identify all work activities which constitute the critical path.
2. Contract Schedule
 - a. Submission:
 - i. Submit the Contract Schedule, in the form and having general content acceptable to Owner's Representative within ten (10) calendar days following date of Commencement as shown on the Notice to Proceed and prior to submitting the first Application For Payment.
 - ii. Owner's Representative will determine acceptability of the Contract Schedule within seven (7) calendar days after its receipt.
 - iii. No Application For Payment will be processed nor shall any progress payment become due until the Contract Schedule is accepted by Owner's Representative.
 - b. Form:
 - i. The Contract Schedule shall be a C&DM, time-scaled network diagram showing continuous flow from left to right and a bar chart showing continuous flow from left to right. Specific calendar dates shall be clearly and legibly shown for the start and finish of each Work Activity.
 - ii. Identify the following milestone events on the Contract Schedule (this may be modified as needed by Owner's Representative):
 - 1. Rough-Outs (Mechanical; Electrical; Plumbing; HVAC)
 - 2. Trim:
 - a. Plumbing
 - b. Electrical

- c. HVAC
 - 3. Interior Drywall/Plaster
 - 4. Finishes:
 - a. Painting
 - 5. Final Inspection and correction of any deficiencies.
 - 6. Beneficial Occupancy or Substantial Completion.
 - 7. Punchlist
 - iii. Identify all University holidays and other non-working days on the Contract Schedule.
 - iv. If the Contract Schedule is shown on more than one (1) sheet, provide a summary sheet.
- c. Activities:
 - i. Identify all Work activities in correct sequence for the completion of the Work. Work activities shall include the following:
 - 1. Major Contractor-furnished equipment, materials, and building elements, and scheduled activities requiring submittals or Owner's prior approval.
 - 2. 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 Owner.
 - 3. A minimum of seven (7) calendar days shall be allotted for Owner's Representative to review each submittal.
 - 4. System test dates.
 - 5. Scheduled overtime Work if required by Contract Documents.
 - 6. Dates Contractor requests designated working spaces, storage areas, access, and other facilities to be provided by Owner.
 - 7. Dates Contractor requests orders and decisions from Owner on designated items.
 - 8. Dates Contractor requests Owner-furnished equipment.
 - 9. Dates Contractor requests Owner-furnished utilities.
 - 10. Connection and relocation of existing utilities.
 - 11. Connecting to or penetrating existing structures.
 - 12. Scheduled inspections as required by Codes, or as otherwise specified.
 - ii. Identify all Work activities that constitute the critical path.
 - iii. 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.
 - iv. 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 Owner shall have an exclusive right to the use of float. The party using float shall document the effect on the updated Contract Schedule.
 - v. 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.
 - vi. 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.
- vii. 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:
- i. Review the Contract Schedule with Owner's Representative once each week to incorporate in the Contract Schedule all changes in the progress, sequences, and scope of Work activities.
 - ii. Prepare and submit to Owner's Representative an updated Contract Schedule once each month.
 - 1. The updated Contract Schedule shall accurately represent the as-built condition of all completed and in-progress Work activities as of the date of the updated Contract Schedule.
 - 2. The updated Contract Schedule shall incorporate all changes mutually agreed upon by Contractor and Owner during preceding periodic reviews and all changes resulting from Change Orders and Field Orders.
 - 3. 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 Owner and Owner's Representative.
 - iii. Contractor shall submit the updated Contract Schedule, in the form acceptable to Owner's Representative, at least seven (7) calendar days prior to submitting the Application For Payment.
 - iv. Owner's Representative will determine acceptability of the updated Contract Schedule within seven (7) calendar days after its receipt.
 - v. No Applications For Payment will be processed nor shall any progress payments become due until updated Contract Schedules are accepted by Owner's Representative.
 - vi. 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.

01 33 00 SUBMITTAL PROCEDURES

- 1. Contractor's Submittals
 - a. Within ten (10) calendar days after receipt of Notice of Apparent Lowest Responsible Bidder, submit detailed Preliminary Contract Schedule/Cost Breakdown with other required documents to the Owner, and to the Owner's Representative for approval.
 - b. Project Schedule: Submit detailed project schedule to the Owner's Representative for approval as required here and in the General Conditions.
 - c. Schedule of Values (Cost Breakdown): Submit detailed project Schedule of Values to the Owner's Representative for approval as required in the General Conditions.
 - d. Submittal Schedule: Submit detailed Submittal Schedule (as provided in the Contract Documents, may for each project) to the Owner's Representative for approval.

- e. Staffing Plan: Submit detailed Staffing Plan to the Owner's Representative for approval as required in Section 01 11 00.
 - f. Product Literature: Submit detailed technical literature fully describing every product or item proposed for use including manufacturer's literature and items specified.
 - g. Samples: Submit samples of materials specified to permit full evaluation of work or items proposed.
 - h. Shop Drawings: For detailed requirements refer to individual sections.
 - i. Light Fixture Receipts: (Delete for all projects except those for the Residential and Student Services Programs (RSSP) unit.) Where light fixtures are to be retrofitted, submit all fixture invoices to the Owner's Representative.
 - j. Operations and Maintenance Manuals (O&M) (Both Electronic AND Hard Copies Required):
 - 1. Submit a minimum of three (3) Optical Discs (CDs, DVDs, or Blu-Ray Disc) copies of each O&M manual in Portable Document Format (PDF).
 - 2. Submit a minimum of three (3) hard copies of each O&M manual.
Format for hard copies shall be:
 - a. Three-ring vinyl view binders with clear plastic pockets on front and back covers. Rings shall not exceed 3" in diameter.
 - b. Binder cover (front, back and spine) shall be entitled Operation and Maintenance Manual, and shall also include UCB Building and UCB Project Names, UCB Project No., UCB CAAN No., and description of binder contents.
 - c. Provide a Table of Contents listing each indexed and labeled tab (divider).
 - d. Provide individual indexed and labeled tabs for each Section in the binder, and organize by ascending Specification Section Number.
 - e. Provide a Project Directory and/or Contact List that includes the Contractor's, and all First-Tier Subcontractors', company names, addresses, telephone nos., E-Mail addresses. Include a description of their work provided (i.e., specification section title, etc.).
2. Existing Conditions
- a. Submittals
 - i. When conditions encountered differ from that shown, submit in writing proposed remedial methods for approval.
 - ii. Cross-reference to Contract Documents including shop drawings, samples and product data as appropriate
 - b. Materials
 - i. Manufacturers and Fabrication: Comply with the requirements established by the Contract Documents.
 - c. Execution
 - i. Inspect existing conditions and surfaces that will become substrates for, or contiguous surfaces with, the work under this contract. Should deviations from tolerances established by the Contract Documents interfere with lines, levels or the tolerances established for the work under this contract, correct prior to commencement of adjacent new work.

- ii. Submit a written list of conflicts and remedial requirements within ten (10) calendar days of the Notice to Proceed. Any conflicts not identified at that time shall be remedied at the Contractor's expense.
 - iii. If photographic, video or other media is utilized to record condition prior to the start of construction, submit two (2) sets/copies of media to the Owner for its records.
 - d. Workmanship
 - i. Work shall be done in accordance with tolerances established by the Contract Documents.
- 3. Correspondence
 - a. Contractor's correspondence (any written document other than a full-size drawing) directed to Owner's Representative shall be distributed as follows, electronic distributions are acceptable where approved in advance by Owner's Representative:
 - i. Original to Owner's Representative.
 - ii. Copies to (provide standard correspondence distribution project specific).
 - iii. Owner's Representative's correspondence (any written document other than a full-size drawing) directed to Contractor shall be distributed as follows:
 - 1. Original to Contractor.
 - 2. Copies to all persons or offices listed on the standard correspondence distribution list (project specific).
- 4. Cost Breakdown
 - a. Within ten (10) calendar days after receipt of Notice of Apparent Lowest Responsible Bidder, submit detailed Preliminary Contract Schedule/Cost Breakdown (choose one—require both if appropriate) with other required documents to Owner, and to Owner's Representative for approval.
 - b. The Contractor shall include a separate allowance (or line item) identified as "Project Closeout" with a corresponding value attributed to this item.
 - c. The Contractor shall also include a separate allowance (or line item) identified as "Building Commissioning" or "Systems Commissioning" with a corresponding value attributed to this item.
 - d. The Contractor shall not submit a Payment Application to the Owner or to the Owner's Representative prior to the Owner's Representative's approval of the Cost Breakdown submittal.
- 5. Payment By Owner
 - a. Summarize quantities and percentages of completion, agreed upon by Contractor, Inspector of Record, and Owner's Representative, on the Cost Breakdown contained in each Application for Payment.
 - i. Contractor shall submit billings on the Application for Payment contained in the Exhibits of the construction bidding documents.
 - ii. One (1) copy of the complete Payment Application shall be submitted by the Contractor to the Owner (via email only, to jihee.lee@ucop.edu).
 - iii. One (1) copy of the complete Payment Application shall be submitted by the Contractor to the Owner's Representative.
 - iv. One (1) copy of the complete Certificate for Payment to the Owner shall be submitted by the Contractor to the Owner (via email only, to jihee.lee@ucop.edu).

- b. In accordance with the General Conditions of the Contract, the Owner will make payments within twenty (20) calendar days after the Owner's receipt of an original valid Application for Payment, an original valid Certificate for Payment, and all required supporting data.
6. Owner Back-Charges
- a. The Contractor shall be cognizant of costs to the Owner caused by execution of the work of this contract. The following activities are costs to the Owner:
 - i. Laboratory Testing
 - ii. Utility Shutdowns
 - iii. Inspections
 - iv. Coordinated hazardous materials abatement (selected identification by Contractor, abatement by Owner.)
 - v. (Note: List other items as appropriate.)
 - b. Excessive or repeat scheduling and canceling of activities may result in back-charges to the Contractor. If excessive or repeat scheduling of Owner activities occurs, the Owner's Representative shall notify the Contractor in writing, and allow five (5) calendar days' notice for the Contractor to "cure." Failure of the Contractor to "cure" excessive or repeat scheduling of activities beyond the five (5) calendar day notice period shall cause the Owner to back-charge the Contractor for costs of these activities. Back-charges shall be deducted from amounts owing to the Contractor.

01 33 23 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1. General

- a. Requirements Included
 - i. Shop Drawings, Product Data and Samples, other than in connection with proposed substitutions, shall be submitted to the Owner's Representative only when specifically required; and the Owner's Representative will not review any other such submittals. Product Data and Samples for proposed substitutions shall be submitted to the Owner's Representative in accordance with Section (insert Section Number). The Contractor shall be responsible for obtaining such copies of Shop Drawings, Product Data and Samples as it may require for its own use.
- b. Related Requirements
 - i. Definitions:
 - 1. The terms "Shop Drawings" and "Product Data" as used herein also include, but are not limited to, 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.
- ii. 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, the Contractor shall procure and distribute the necessary copies of such instructions to the Owner's Representative and all other concerned parties; and the Contractor shall furnish, install, or perform the Work in strict accordance therewith.
 - iii. Submittal Schedule:
 - 1. The Contractor shall provide a Submittal Schedule to the Owner's Representative for approval no later than ten (10) calendar days after the date of commencement specified in the Notice To Proceed.
 - 2. The schedule for submission of Shop Drawings, Product Data, and Samples by the Contractor (the "Submittal Schedule"), and their processing and return by the Owner'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.
 - 3. The Contractor shall prepare the Submittal Schedule in the format contained in the Exhibits and coordinate it with the Contract Schedule. No submittals shall be processed before the Submittal Schedule has been submitted to and approved by the Owner's Representative, except in such cases where the processing of submittals is required before the approval of the Submittal Schedule.
 - 4. In preparing the Submittal Schedule, the Contractor shall first determine from the Contract Schedule the date the particular item is needed for the Work. Working backwards, the Contractor shall add the required number of days for shipment, time for fabrication, and similar items to determine the date of the first submittal.
 - 5. The Submittal Schedule shall be adjusted to meet the needs of the construction process and the Contract Schedule. Submit two (2) copies (minimum) of the Submittal Schedule after it is completed and each time it is updated by the Contractor. Electronic distribution is acceptable where agreed to in advance by Owner's Representative.
- c. Shop Drawings
- i. 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.
- d. Product Data
- i. 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.
5. Do not submit superfluous information unrelated to Project.
- ii. Manufacturers' standard schematic drawings and diagrams:
 1. Modify the Drawings and other diagrams to delete information which is not applicable to the Work.
 2. Supplement standard information to provide information specifically applicable to the Work.
- e. Samples
 - i. Office Samples shall be of sufficient size, quality, and quantities 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.
 - ii. Field Samples and Mock-Ups:
 1. Erect at the Project site, at a location as directed by Owner's Representative.
 2. Fabricate each Sample and Mock-Up completely and fully finished.
 3. Wherever possible, in-place mock-ups that may be utilized as part of the finished work are preferred.
 4. The Owner's Representative must specifically approve incorporation of mock-up into the work of the project. Contractor must remove mock-up if not approved for incorporation.
- f. Contractor's Review of Submittals
 - i. 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 the Contractor for conformance with the requirements of the Contract Documents and for coordination of the Work.
 - ii. Determine and Verify:
 1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
 4. Conformance with Contract Documents.
 - iii. Coordinate each submittal with requirements of the Work and of the Contract Documents.
 - iv. Notify the Owner's Representative in writing, at time of submission, of any changes in the submittals from requirements of the Contract Documents.
 - v. Begin no fabrication or Work which requires submittals until the return of the Owner's Representative's final reviewed submittals.
- g. Submission Requirements
 - i. 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.
 - ii. Number of Submittals Required, Electronic distribution is acceptable where agreed to in advance by Owner's Representative:
 1. Shop Drawings: Submit one (1) reproducible transparency and two (2) opaque reproductions. After checking, the Owner's

Representative will make prints for themselves, their consultants, and Owner and then return the reproducible copy to the Contractor. The Contractor shall make prints as required for its use and for any Subcontractor's use.

2. Product Data and Non-Reproducible Submittals: Submit the number of copies which the Contractor will need, plus four (4) copies (minimum) which will be retained by the Owner's Representative.
 3. Samples: Submit the number specified in the Specification Section which requires them.
- iii. Submittals shall contain:
1. Date of submission and dates of any previous submissions.
 2. UCB Project name and UCB Project number.
 3. Contract identification.
 4. The names of:
 - a. Contractor.
 - b. Subcontractor.
 - c. Supplier.
 - d. Manufacturer.
 - e. Other (if applicable).
 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 (8" x 3") blank space for review stamps.
 12. Contractor's stamp, initialed or signed, certifying to the review of 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.
- iv. 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 Owner's Representative.
 2. Samples: Submit new samples as required for initial submittal.
- v. Distribution:
1. The Owner's Representative shall distribute approved Shop Drawings, Product Data and Samples, (all of which carry the Owner's Representative's review stamp) to the following:

- a. Owner - Two (2) copies minimum.
 - b. Contractor - Two (2) copies minimum.
 - c. Owner's Representative - Two (2) copies minimum.
2. Electronic distribution is acceptable where agreed to in advance by Owner's Representative
- vi. Owner Representative's Review:
1. Owner'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 the Contractor as required by the Contract Documents.

01 35 00 SPECIAL PROCEDURES

01 35 04 PRECAUTIONS

1. Extreme care must be taken to ensure that no dust is brought into the University facilities. If dust or dirt is brought into the facility where work is being performed or any adjacent facility, all construction work will be stopped until the material is cleaned and procedures have been established to rectify the problem, all at no additional cost to the Owner.
 - a. Protect interior spaces offices from dust, dirt, moisture, and other potential damages using methods that do not damage lab equipment and offices.
2. In the event that artifacts, human remains, or other cultural resources are discovered during construction, the Contractor shall protect the discovered items, cease work for a distance of thirty-five feet (35'-0") radius in the area, and notify the Project Manager in writing. The Owner may retain an archaeological consultant to evaluate findings in accordance with standard practice and applicable regulations. Artifact recovery, if deemed appropriate, will be conducted during the period when construction activities are on hold. Following completion of artifact recovery, a Change Order may be issued to adjust the contract time if required.

01 35 05 UTILITY SHUTDOWNS AND INTERRUPTIONS

1. Submit in writing (completed Shutdown Request Form) via email to the Owner, a ten (10) calendar days' advance notice of need to shut off existing utility service(s) or equipment interruptions. UC-PM will provide Shutdown Request form to the successful Contractor. Contractor will indicate preferred date(s), time(s), duration, scope and all work required to complete the work (re-establish service, such as connections, line taps, cable splicing, other as needed). The UC-PM shall set exact date, time and duration for and submit the shutdown to the Facility Services Campus Services (The Shutdown Desk). All work required to re-establish service, such as connections, line taps, cable splicing, shall be performed by the Contractor.
 - a. The Contractor is not authorized to proceed with any work associated with the Shutdown until "Confirmed" Shutdown Notice is issued from the UC-PM in writing.

- b. Failure of the Contractor to identify and submit required shutdowns per the bid documents in the time period indicated above does not excuse the Contractor from completing the Project within the performance time stipulated in the Agreement or excuse the Contractor from the payment of liquidated damages if final completion is delayed.
2. Obtain Owner's approval at least twelve (12) calendar days (modify as appropriate – no less than eight (8) days) in advance of deliveries of material or equipment or other activities which may conflict with Owner's use of facilities.
 - a. Contractor will submit Access Interruption (AI) if deliveries will disrupt roadways, walkways, pedestrian circulation, facility access, parking, other. UC-PM will provide AI form to successful Contractor but will include as a minimum the following:
 - i. Detailed Narrative
 - a. Date(s) of interruption (schedule).
 - b. Reason for Interruption.
 - c. Area(s) of Impact
 - d. Methods and Procedure Plan (MAP)
 - i. Safe-off measures
 - ii. Pedestrian Control
 - e. Additional Details as needed
 - ii. Campus Plan Illustrating general area of work.
 - iii. Enlarged Logistic Plan(s)
3. Excessive scheduling of utility shutdowns or repeated requests to schedule and subsequent cancellation or re-scheduling of shut-downs may be subject to back-charges to the Contractor in accordance with Division 1 (Change Orders).

01 35 13.43 SPECIAL PROJECT PROCEDURES FOR CONTAMINATED SITES

ASBESTOS RELATED CONSTRUCTION ACTIVITIES

1. The Contractor shall not include any costs associated with asbestos removal in its bid. If during the course of construction, asbestos is discovered, the removal of such asbestos shall not be the responsibility of the Contractor.
2. If asbestos is suspected, the Contractor shall immediately stop its work and notify the Project Manager. The Project Manager shall notify the Real Estate Division's Facilities Services Abatement Shop. EH&S shall make the required tests to determine if, in fact, asbestos is present.
3. If asbestos is suspected (or identified), the Contractor shall immediately transfer its work effort to other areas of the site that are not impacted by asbestos.
4. If it is determined by the Owner that asbestos is present, the Contractor shall not be permitted to work in the affected area of the Project until the asbestos hazard is removed, by a separate licensed asbestos abatement Contractor, and the affected area is determined to be safe by the Environment Health and Safety Office (EH&S).
5. If asbestos removal by the Owner is necessary, a Change Order shall be issued by the Owner's Representative to account for the project delay and to establish a new Construction Completion Date, if required.

LEAD RELATED CONSTRUCTION ACTIVITIES

1. Summary
 - a. Project activities that this specification applies to include preparation of the building interior and exterior walls for painting, wall and floor demolition, structural steel

- welding, shear wall preparation, or any other activity that may disturb lead containing materials.
- b. In accordance with Cal/OSHA regulations, the Contractor shall be ultimately responsible for ensuring and documenting the health and safety of its employees. Therefore, the Contractor shall conduct personal air monitoring or obtain objective data (Section 1, Subsection F of these specifications) and maintain documentation of those air samples. Results of any air monitoring conducted by the Contractor during this project shall be made available to the Office of Environment, Health & Safety (EH&S) within 24 hours of the Contractor's receipt of the results.
 - c. The tools, procedures, and engineering controls the Contractor is using and the lead content of the paint determine the applicability of these specifications. Thus, if the lead exposure to Contractor's employees can be held below the Permissible Exposure Limit of 50 µg/m³, then the DHS Certification mentioned in Section 1, Subsection O, "Training, and Certification" shall not be required.
 - d. The work practices and procedures discussed in this specification apply to any activities that may disturb lead containing materials.
 - e. Cal/OSHA Lead Work Notification
 - i. The Contractor and its subcontractors shall comply with the Lead Work Notification required by Cal/OSHA §1532.1 (p) where applicable. The notification shall include the eleven items of information listed in Cal/OSHA §1532.1 (p)(B)(2). A copy of the notification provided to Cal/OSHA shall also be provided to the Real Estate Division's Project Manager and the EH&S Construction Health and Safety Specialist within 24 hours of the time the Contractor or Subcontractor has provided it to Cal/OSHA.
 - ii. The notification can be provided to Cal/OSHA, and the Real Estate Division's EH&S unit by electronic mail or facsimile transmission (fax).
 - f. Provisional Independent Oversight
 - i. UCOP may retain the services of an independent third party oversight consultant (Consultant) to perform the following functions: review of training certificates, review of personal monitoring results, perimeter air monitoring, inspection of barriers and polyethylene sheeting, occasional site visits, review of waste handling procedures, and clearance inspections (if applicable). The Project Manager may delegate these responsibilities to EH&S at its discretion, subject to agreement by EH&S. The term "Consultant" shall, in these specifications, apply to an independent consultant, its designee, or any other party mutually acceptable to the Project Manager and EH&S to serve in this capacity.
 - g. Provisional Perimeter Air Monitoring
 - i. At UCOP's discretion, the Consultant (see Subsection F, above) may collect air samples approximately 20 feet (20'-0") downwind of the working surfaces at the temporary perimeter or barrier tape. The Consultant shall perform continuous air monitoring during any activities that may disturb lead containing material. The Consultant may collect additional samples as appropriate to represent site perimeter lead air concentrations. See Section 3, subsection A: Containment System.
 - h. Provisional Personal Air Monitoring
 - i. UCOP may, at its discretion, direct the Consultant to conduct an exposure assessment on an employee of a Contractor using the criteria mentioned in Cal/OSHA regulations (Title 8 CCR 1529 and Title 8 CCR 1532.1) as mentioned in the introduction to this Section. If this option is chosen by UCOP, the Consultant shall forward all personal monitoring results to EH&S

- within 24 hours after the work is performed. The results should be hand delivered, emailed or faxed to the attention of the EH&S Construction Health & Safety Specialist, fax number (510) 643-7595.
- i. Previous Exposure Assessment for Disturbance of Lead Containing Materials
 - i. If the Contractor's employees may be exposed to lead at or above the Cal/OSHA PEL of 50 $\mu\text{g}/\text{m}^3$, the Contractor shall perform personal air monitoring as an Initial Exposure Assessment, or collect objective data from general industry sources. The Contractor shall have documentation of that data available to EH&S upon request within 24 hours. That documentation, from either a previous exposure assessment or from objective data, shall include the following:
 1. A description of the activities on similar projects during which exposure monitoring was conducted.
 2. Exposure assessment data from similar projects that includes the following:
 - a. The date the samples were collected;
 - b. The results of the samples expressed in both the analytical results and the eight (8) hour time-weighted average (TWA);
 - c. The personnel who performed the activities; and
 - d. The person(s) who conducted the monitoring and their qualifications.
 3. A copy of the Written Compliance Program used for the specific project.
 4. A copy of the laboratory or X-ray fluorescent analyzer (XRF) analytical results that show the lead content of the materials that were disturbed
 - j. Contractor Notification Requirement
 - i. The Contractor shall provide notice to all other Contractors and Subcontractors on site of any upcoming work that will impact lead, and may generate levels of airborne lead that could present a potential exposure to workers at or above the PEL. This notice shall provide information on the control measures being implemented and a warning to remain outside of the immediate area where such activities are occurring.
 - k. Coordinate Removal of Items on the Building Exterior or Interior Prior to the Start of Work
 - i. The Contractor shall remove or protect items (if any) located within twenty feet (20'-0") of the paint preparation areas to avoid contaminating these items with lead. These items shall be relocated or disposed of prior to the start of work. The Contractor shall coordinate this activity with the Project Manager.
 - l. Coordinate Access/Egress Issues
 - i. Work that may disturb lead-containing materials and may present a potential for exposure to concentrations above the PEL shall be performed after other Contractors, subcontractors or occupants working on site have been temporarily evacuated from the immediate area. If this is not possible, the Project Manager shall arrange for a safe means of access/egress. Only qualified personnel trained to work with lead, as appropriate, shall be permitted inside controlled areas during any activities that may generate levels of lead that may present a potential for worker exposure above the PEL.
 - m. Coordinate/Ensure Clearance Inspections
 - i. The Contractor shall conduct visual inspections as necessary to ensure that all loose or chipped paint has been removed from the surface and debris is

not left behind as a result of the paint preparation, or other activities that disturb lead containing materials. Clearance air and wipe sampling shall not be required, but UCOP, or its Consultant, may perform a visual inspection to ensure that the Contractor has adequately cleaned all surfaces.

- n. Follow All Applicable Regulations
 - i. The Contractor shall perform all work that disturbs lead containing materials in accordance with all applicable health, safety, and environmental regulations, including the Cal-OSHA Lead Standard (Title 8 CCR 1532.1), and Bay Area Air Quality Management District (BAAQMD) regulations. The Contractor shall provide a copy of its written compliance program (as required by Cal/OSHA 1532.1) to the Project Manager and EH&S for review and approval prior to commencing work.
- o. Training and Certification.
 - i. If the Contractor's employees may be exposed to lead above the Cal/OSHA Action Level of 30 $\mu\text{g}/\text{m}^3$, employees shall be trained according to Cal/OSHA § 1532.1 (I)(2).
 - ii. If the Contractor's personnel may be exposed to lead above the Cal/OSHA Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter of air sampled ($\mu\text{g}/\text{m}^3$) then the Contractor shall provide personnel who are certified by the California Department of Health Services (DHS) as Lead Workers or Supervisors for all activities that may disturb lead containing materials unless or until IEA monitoring shows that the work does not expose workers to concentrations of lead at or above the PEL.
 - iii. Training certificates for all the Contractor's employees subject to this requirement shall be supplied to the Project Manager, and reviewed and approved by EH&S or the on-site Consultant prior to commencing work.
- p. Suspension of Work
 - i. The Contractor, the Consultant, the Project Manager, or EH&S may suspend lead related work if any controls (such as barriers) fail, if excessive amounts of debris known or suspected to contain lead are detected outside the controlled area, or if the work is on the exterior and wind speeds are more than twenty (20) miles per hour. The Consultant and EH&S shall assist the Contractor in evaluating the effectiveness of the control measures.
 - ii. If work is suspended due to the Contractor's failure to use adequate engineering methods, maintain barriers, or implement good housekeeping, all costs associated with the suspension, including remedial actions and any additional sampling required according to this specification, shall be the Contractor's responsibility.
- q. Project Documentation and Submittals
 - i. The Contractor shall maintain on the job site copies of applicable documents (Sections 6 and 12) that show compliance with this specification, including but not limited to:
 - 1. Cal/OSHA Lead Notification
 - 2. Training records
 - 3. DHS Certifications
 - 4. Respiratory protection program
 - 5. Respirator fit testing records
 - 6. Medical clearances (Cal/OSHA)
 - 7. Written lead compliance program (Cal/OSHA)
 - 8. Description of barriers and engineering controls

9. A description of personal protective equipment
 10. All air monitoring results
 11. All waste disposal documentation
 - ii. Waste documentation and air monitoring results shall be submitted to the Project Manager and EH&S as they are received and not later than two (2) weeks after completion of activities that may disturb lead. All other documentation shall be submitted to the Project Manager and EH&S prior to performing any activities that may disturb lead containing materials.
2. Materials and Equipment
 - a. Containment Plastic Sheeting
 - i. Any form of ventilation containment sheeting or fabric used to control the flow of dust or fumes associated with the disturbance of lead containing materials shall be fire retardant (see Section 3, Subsections A1 and A2).
 - b. Vacuum Assisted Tools.
 - i. Wherever possible, the Contractor shall use a HEPA vacuum for manual activities that disturb lead containing materials. All power tools and abrasive blasting used for activities that may disturb lead-containing materials shall be HEPA vacuum assisted. HEPA assisted power tools shall be approved by the Project Manager prior to use.
3. Execution
 - a. Containment System for Occupied Buildings.
 - i. The Contractor shall collect lead contaminated dust and debris that fall to the ground by using one (1) or more layers of fire retardant polyethylene of at least six-mil thickness (or a material of similar durability) to cover horizontal surfaces below the work area. This plastic shall be secured to the building and extend horizontally at least ten feet (10'-0"), where practicable.
 - ii. The Contractor shall seal all windows and doors located within twenty feet (20'-0") of the work surfaces using at least one (1) layer of fire retardant six-mil polyethylene or similar material. Windows scheduled to undergo external paint removal shall also be sealed on the interior of the building, using at least two (2) layers of six-mil polyethylene or similar material, with no gaps between the interior wall and the material. This shall remain in place until removal and subsequent clean-up of lead containing material from the building have been completed.
 - iii. Perimeter air samples may be collected by the Consultant or EH&S in areas adjacent to the work areas where lead containing materials are being disturbed. If the results exceed 15 $\mu\text{g}/\text{m}^3$ over an 8-hour Time Weighted Average (TWA), the Contractor shall construct a means of containment that controls ventilation or production of dust and debris in order to maintain perimeter airborne lead concentrations below 15 $\mu\text{g}/\text{m}^3$. If the controls do not maintain perimeter airborne lead concentrations below 15 $\mu\text{g}/\text{m}^3$ TWA during any given shift, the lead-related work shall be stopped by UCOP EH&S or its Consultant. Within one (1) day of the work stoppage, UCOP's Environmental Consultant shall convene a meeting to review engineering controls and work practices. The meeting shall be attended by all parties affected on the job site as determined by the General Contractor and UCOP EH&S. The Contractor shall perform the control measures decided upon at that meeting at no additional cost to UCOP or UCOP's Consultant.
 - b. Controlled Area/Work Perimeter.

- i. If the perimeter samples mentioned in Section 1, Subsection 9 are at or above 15 $\mu\text{g}/\text{m}^3$, the Contractor shall maintain a temporary fence or barrier tape at a distance of at least twenty (20'-0") feet from the work surfaces whenever possible. The Contractor shall post warning signs around the perimeter of the work area in accordance with Cal/OSHA requirements.
- c. Restricted Access to Controlled Area.
 - i. The Contractor shall restrict work area access to only trained, qualified and properly protected personnel during activities that disturb lead containing materials and may generate airborne levels of lead at or above the PEL.
- d. Wet Methods.
 - i. The Contractor shall use wet methods to manually remove lead containing materials. The debris generated must be maintained in a wetted state while it is being disturbed. All lead containing debris shall be collected and contained by the end of the shift and shall not be left uncovered overnight. Other methods, such as chemical strippers or HEPA vacuum assisted power tools, do not need to be kept wet.
- e. Cleaning.
 - i. After surfaces have been scraped and prepared for coating and sealing, the Contractor shall use a HEPA vacuum to remove dust and debris. All loose debris must be collected and contained before the end of each working shift and shall not be left uncovered overnight.
- f. Respirators.
 - i. If the lead exposure to its employees is at or above the PEL, the Contractor shall use respirators and personal protective equipment as required by Cal/OSHA's task related triggers for lead, or as appropriate, based on personal air monitoring results. All respirators shall be NIOSH/MSHA approved. Respirator fit test records and the respiratory protection program shall be retained on site as part of the project documentation if respiratory protection is used on this Project. Disposable dust/mist respirators shall not be used as personal protective equipment for lead.
- g. Air Quality.
 - i. The Contractor shall maintain adequate engineering controls to ensure that work does not generate airborne lead concentrations in excess of 1.0 $\mu\text{g}/\text{m}^3$ above background levels, as measured by the Consultant or EH&S at the perimeter of the job site.
- h. Hazardous Waste Management and Disposal
 - i. All lead containing materials shall be treated as hazardous waste unless the Contractor is notified otherwise by EH&S, Facilities Services Abatement Shop, or the Consultant. The handling, transport, and disposal of all hazardous waste shall be managed in accordance with all applicable Federal, State, and local hazardous waste laws and regulations.
 - ii. Non-Hazardous materials must have Bills of Lading or other shipping documents for transportation to acceptance site signed by UC representatives.
 - iii. Hazardous materials disposal manifests can only be signed by EH&S Campus Staff with DOT training.
 - iv. All soil shipping documents (BOLs and manifests) must be sent to EH&S for final record retention.
 - v. The Contractor shall provide personnel trained in hazardous waste handling in accordance to Title 22 CCR, Section 66262.34 to package or otherwise handle hazardous waste.

1. Containers
 - a. Small containers used for storage of waste shall be United States Department of Transportation (DOT) approved. Contractor shall supply appropriate waste containers for scope of work and shall select containers that are chemically compatible with the material(s) to be stored in them.
 - b. The Contractor shall supply bulk containers (bins, tanks, or tank trucks) when necessary.
 - c. The Contractor shall keep containers closed at all times except when material is being added.
2. Labels
 - a. Containers of hazardous waste shall display hazardous waste labels. Before waste is accumulated, the Contractor shall identify and define waste streams. The Contractor shall not mix different waste streams in the same container. The Contractor shall mark the initial accumulation date on the hazardous waste label when waste is first placed in the container.
3. Waste Storage Area
 - a. The Contractor shall store closed and sealed waste containers on the construction site in a locked, secured area out of the elements. The storage area, room or structure shall be selected and identified by UCOP and the Contractor on an as needed basis.
4. Inspections
 - a. The Contractor shall inspect the waste storage area weekly to ensure the containers are not leaking, are segregated into compatible groups, and labeled properly with appropriate dates, quantity limits are complied with, and waste descriptions. The Contractor shall log this information on a weekly inspection log. The Contractor shall allow UCOP representatives to review the log when requested.
5. Disposal
 - a. Small Containers
 - i. Contractor shall ensure containers are properly removed with shipping documents signed by appropriate UC parties.
 - b. Bulk Containers
 - i. For bulk hazardous waste containers, the Contractor shall manifest, transport and dispose of at UCOP approved disposal facilities.
6. Spill Response
 - a. The Contractor shall maintain sufficient quantities of spill response supplies to contain at least 110% of any accumulated waste. Immediately notify UCOP when there is a spill. Respond to the spill at the soonest, safest possible moment. The Contractor shall clean up the spill and contain it according to the requirements of this specification. UCOP EH&S will provide assistance in regulatory agency notification, and reporting (if necessary).

01 35 53 SECURITY PROCEDURES

GUIDELINES FOR OPERATIONS DURING A PROTEST

1. Project Security
 - a. Project security is the responsibility of the Contractor.
2. Procedures During A Protest
 - a. Known Protests (Most Common):
 - i. In most cases, protests will be anticipated. Information is provided in advance to the University of California Police Department (UCPD), or the assemblage can be seen from the Project site. Under these conditions, UCPD shall dispatch officers to the site. UCPD shall notify the Project Manager who shall contact the Project Inspector (and the On Site Project Coordinator, if any). Once on site, the supervising UCPD officer shall introduce themselves to the Contractor's Superintendent, the Project Inspector (and the On Site Project Coordinator, if any) and a review of the situation shall be made. The supervising UCPD officer shall determine if the Contractor should cease work in certain areas, relocate its work forces, or vacate the premises. The Project Inspector (and On Site Project Coordinator, if any) shall document the action in their daily report(s), and consideration may be given to the Contractor for an extension of contract time and/or cost. Any extension of contract time and/or cost shall be by an executed Change Order.
 - b. Unknown Event:
 - i. In the event that protest activities occur without prior notification and consultation with UCPD, the Contractor shall cease all work activities that may directly or indirectly cause harm to a worker or protestor. The Contractor shall leave the affected area, and if possible, remove tools, equipment and construction materials. The Contractor's Superintendent shall notify the Project Inspector (and the On Site Project Coordinator, if any) of the event. The Project Inspector (and the On Site Project Coordinator, if any) shall record this activity in their daily report(s) and consideration may be given to the Contractor for an extension of contract time and/or cost.
 - c. If the Contractor is prevented from vacating the affected area by protestors, it shall be the responsibility of UCOP to provide safe egress for the Contractor.
 - d. Under no circumstances is the Contractor to confront protestors, incite activity, or physically impede their intended activity.
 - e. The Contractor shall be aware of the work area and cognizant of any unusual visitors to the Project site.
 - f. Jurisdiction is as follows:

Contact Tim Dowing, Building Engineer
510-919-3901

SECURITY FOR TOWER CRANE (IF USED):

1. Provide and install wood structure around base of tower crane. Wood base shall be constructed of 5/8 inch thick minimum, fire retardant, treated exterior plywood. Flare top of wood base at a 45 degree angle. Provide a working platform at top of base structure with opening to accommodate the ladder leading to operator's cab. Extend structure from ground level to top of tower. Provide one strand of barbed wire at top of structure and another strand ten (10'-0") feet above ground.

2. Access Door: Provide solid wood door with full mortise butt hinges (NRP) and two (2) padlocks with hasps and staples, one (1) padlock on exterior and one (1) on interior side of door.
3. Alarm: Install audible alarm.
4. Operator's Cab: Provide two (2) locks on the access door to cab, one (1) on exterior of cab and one (1) on interior of cab.

01 40 00 QUALITY REQUIREMENTS

01 41 00 REGULATORY REQUIREMENTS

1. General

- a. Perform all Work in compliance with requirements of:
 - i. State of California Code of Regulations (CCR):
 1. Title 8, Industrial Relations,
 2. Title 19, Public Safety,
 3. Title 21, Public Works, Chapter One, Subchapter One, Group 2, Office of Architect and Construction dealing with portions applicable to provisions for the Handicapped,
 4. Title 22, Public Health,
 5. Title 24, Building Standards.
 - ii. Occupational Safety and Health Act (OSHA).
 - iii. National Electrical Code (NEC).
 - iv. National Fire Protection Association Codes and Standards (NFPA).
 - v. Bay Area Air Quality Management District Regulations including but not limited to permit requirements for portable internal combustion equipment (engines and gas turbines greater than 50 horsepower).
 - vi. All other applicable health and safety requirements, codes and regulations.
- b. 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.

2. Conflicts

- a. If a conflict exists between referenced regulatory requirements or between referenced regulatory requirements and the Contract Documents, the Contractor shall notify the Owner'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"

01 45 00 QUALITY CONTROL

01 45 23 TESTING AND INSPECTING SERVICES

1. General

- a. Access To The Work
 - i. In addition to the requirements of the General Conditions, the Owner, the Owner's Representative and their representatives shall at all times have access to the Work wherever it is in preparation or progress and

Contractor shall provide safe and proper facilities for such access and for inspection. The inspection and written acceptance of material and workmanship, unless otherwise stated in these Specifications, shall be final except as provided in the General Conditions.

b. Testing and Approval

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

c. Owner's Inspectors

- i. The Owner shall supply personnel who shall observe construction in progress. Project Inspectors shall have the following responsibilities and limitations on authority:
 1. Observe installations and work in progress as a basis for determining conformance of the work, materials and equipment with the Construction Documents. Project Inspector shall report any discrepancies observed to Owner's Representative and Contractor. Only the Owner's Representative has the authority to make approvals or rejections.
 2. Only the Owner's Representative shall interpret the requirements of the Construction Documents. If any item is ambiguous, Owner's Representative shall make a written interpretation. If the Contractor requests changes or modifications to the Construction Documents, the Owner's Representative shall make a written determination on the requested changes or modifications.
 3. Prepare an inspection report for each inspection performed.
 4. Review the monthly progress payment request before Contractor submits it to Owner's Representative.
 5. Assist the Owner's Representative in reviewing the test and inspection results of testing laboratories.
 6. The Project Inspector is not authorized to permit deviations from the requirements of the Contract Documents unless such deviation has been approved by the Owner's Representative in writing.
 7. The Project Inspector is not authorized to advise on or issue directions to the Contractor about any aspect of construction means, methods, techniques, sequences or procedures, or relating to safety programs in connection with the Project.
- ii. The failure of the Owner, the Owner's Representative and/or consultants, or the Owner's Project Inspector to observe or inspect the Work, or to detect deficiencies in the Work, or to inform the Contractor of any deficiencies which may be discovered, shall not relieve the 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 Owner's Representative, or the requirements of any inspection, prevailing code, 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 the Owner through Beneficial Occupancy (or Substantial Completion, where applicable) in accordance with the General Conditions.

- d. Inspection Requests
 - i. The Contractor shall request, in writing, inspection of completed portions of the Work through the Owner's Project Inspector, at least twenty-four (24) hours in advance of the inspection to be performed.
 - ii. The Owner's Project Inspector or the Owner's Project Manager shall be on site for all work that takes place during normal work hours or that takes place on weekends or on University or other holidays.
 - iii. Repeat inspection or inspections requested and subsequently canceled, may be subject to back-charges in accordance with Section 01 33 00.

01 45 29 TESTING LABORATORY SERVICES

1. Part 1 – General

a. Definitions:

- i. The term "Owner's Testing Laboratory" means a testing laboratory retained and paid for by the Owner for the purpose of reviewing material and product reports and performing other services as determined by the Owner.
 - ii. The term "Contractor's Testing Laboratory" means a testing laboratory retained and paid for by the Contractor to perform the testing services required by the Contract Documents. The Contractor's Testing Laboratory shall be an organization other than the Owner's Testing Laboratory and shall be acceptable to the Owner's Representative. It may be a commercial testing organization, the testing laboratory of a trade association, the certified laboratory of a supplier, the Contractor's own forces, or other organization. The Contractor's Testing Laboratory shall have performed testing of the type specified for at least five (5) years.
- b. Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by Applicable Code Requirements shall be made at the times needed in order not to hinder the progress of the Work. Except as otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with the Contractor's Testing Laboratory. The Contractor shall give the Owner's Representative timely notice of when and where tests and inspections are to be made.
 - c. If such procedures for testing, inspection, or approval reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the Owner's Representative's services and expenses.

- d. If the Owner's Representative is to observe tests, inspections, or make approvals required by the Contract Documents, the Owner's Representative will do so, 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 the Owner's Representative.
2. Contractor's Responsibilities Regarding Owner's Testing Laboratory
- a. Within ten (10) calendar days (modify as appropriate) after receipt of Notice of Proceed, submit detailed scope and list of required OTL inspections referencing specification sections to Owner, and to Owner's Representative.
 - b. Owner's Representative will provide Testing Laboratory contact information.
 - c. Contractor will schedule Testing Laboratory inspections
 - i. The Contractor shall request via Facilities Services CBD website – Request Construction Inspection link <https://facilities.berkeley.edu/operating-units/campus-building-department/inspections>, inspection of completed portions of the Work clearly indicating the inspection is by another authority through the Owner's Project Inspector, at least fourth-eight (48) hours in advance of the inspection to be performed of issuance of a tracking number.
 - i. The Contractor shall send an email to PM and Testing Laboratory Inspection with IOR tracking number. The IOR tracking number is to be reference on Testing Laboratory Reports
 - b. Secure and make available to the Project, specified quantities of representative samples of materials proposed for use as specified.
 - c. Submit to Owner the preliminary design mixes proposed to be used for concrete and other materials which require review by the Owner's Testing Laboratory, the Inspector of Record, and the Owner's Representative.
 - d. Submit copies of product test reports as specified.
 - e. Furnish incidental labor and facilities:
 - i. To provide the Owner's Testing Laboratory access to Work to be tested.
 - ii. To obtain and handle samples at the Project site or at the source of the product to be tested.
 - iii. To facilitate inspections and tests.
 - f. Provide written notice to the Owner's Representative, the Owner's Testing Laboratory, and the Inspector of Record, forty-eight (48) hours in advance of operations to allow for assignment of personnel and scheduling of tests.
 - g. If Work is not performed when scheduled, Contractor shall reimburse the Owner for the Owner's Testing Laboratory personnel and travel expenses incurred.
3. Tests and Inspections
- a. Certain portions of the Work shall be tested 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. The Owner's Representative shall make periodic on-site observations of construction as it progresses and upon completion, and shall make off-site reviews of fabricated materials and equipment when such off-site reviews are specified in the Contract Documents.
 - c. The Inspector(s) shall be selected and employed by the Owner. The Inspector(s) shall observe testing and inspection done by the Contractor as required in the Contract Documents and coordinate and observe special testing and inspection when requested by the Owner's Representative or the Owner.

- d. The Contractor shall personally supervise all work and inspect all materials as they arrive for compliance with the Contract Documents, and shall reject defective work and material without waiting for such rejection from others in authority. Opportunity for observation and inspection by the Owner's Representative and Inspector(s) shall be afforded throughout the construction.
4. Additional Testing and Inspection
 - a. If initial tests or inspections made by the Owner's Testing Laboratory or the Owner's Geotechnical Engineer reveal that any portion of the Work does not comply with Contract Documents, or if the Owner's Representative determines that any portion of the Work requires additional testing or inspection, additional tests and inspections shall be made as directed.
 - b. 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 the Owner.
 - c. If such additional tests or inspections establish that such portion of the Work fails to comply with the Contract Documents, all costs of such additional tests and inspections, and all other costs resulting from such failure, including compensation for the Owner's Representative, the Inspector of Record, and the Owner's consultants, shall be deducted from the Contract Sum.
5. Test Report
 - a. Owner's Testing Laboratory and Contractor's Testing Laboratory shall distribute copies of all reports as follows:
 - i. Owner's Representative: One (1) copy.
 - ii. Inspector of Record: One (1) copy.
 - iii. Owner's Consultants: One (1) copy each.
 - iv. The number of copies for the Contractor and Subcontractor being tested shall be determined upon commencement of Contract.
 - b. Uncovering Of Work
 - i. If a portion of the Work is covered contrary to the Owner's Representative's request or direction, or contrary to the requirements of the Contract Documents, it shall, if required in writing by the Owner's Representative, be uncovered for the Owner's Representative's observation and be replaced at the Contractor's expense without adjustment of the Contract Time or the Contract Sum.
 - ii. If a portion of the Work has been covered, which is not required by the Contract Documents to be observed or inspected prior to it being covered and which the Owner's Representative has not specifically requested to observe prior to it being covered, the Owner's Representative may request to see such Work and it shall be uncovered and replaced by the 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, the Contractor shall pay such costs and shall not be entitled to an adjustment of the Contract Time or the Contract Sum.

01 45 16.13 CONTRACTOR QUALITY CONTROL

1. Superintendent

- a. In addition to requirements of the General Conditions:
 - i. Submit qualifications showing five (5) years minimum experience as Superintendent.
 - ii. 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 the Owner to terminate the Contract or, alternatively, issue a Stop Work Order until the Superintendent is on Project site. If, by virtue of issuance of said stop order, the Contractor fails to complete the Contract on time, it will be assessed liquidated damages in accordance with the Agreement.
 - iii. The Superintendent approved for this Project shall be able to read, write, and verbally communicate fluently in English.
 - iv. 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.

2. Contractor's Staffing

- a. Where applicable and simultaneously with submittal of a signed Agreement, the Contractor shall submit a proposed Staffing Plan for review and acceptance by the Owner's Representative.
- b. The Contractor's proposed Staffing Plan shall identify individual persons proposed to fill the following positions, or their respective equivalents, for the Project:
 - i. Project Manager (full time, one [1] position minimum),
 - ii. Project Superintendent (full time, one [1] position minimum),
 - iii. Field Engineer (full time, one [1] position minimum),
 - iv. Job-site Administrative support (full time, one [1] position minimum),
 - v. Administrative support personnel at Contractor's home office as appropriate.
- c. The Staffing Plan shall be consistent with staff commitments included in the Contractor's Prequalification submittal document, where applicable. (Note: Delete this paragraph if no Prequalification process was performed for the Project.)
- d. The Contractor shall provide information as appropriate to document the qualifications of individual persons named in proposed Staffing Plan, for their respective positions.
- e. The Contractor shall revise and re-submit the proposed Staffing Plan as required for acceptance by the Owner's Representative.
- f. Acceptance of the Contractor's Staffing Plan by the Owner's Representative shall be a condition precedent to the making of any progress payment for work performed beyond sixty (60) calendar days (change time period as appropriate) from the date of commencement as specified in the Notice To Proceed.
- g. After acceptance of the Staffing Plan, the Contractor shall notify the Owner's Representative in writing of any revisions to the Staffing Plan. Changes in the level of staffing or substitutions of staff for those named in the accepted Staffing Plan shall require the acceptance of the Owner's Representative.

01 50 00 TEMPORARY FACILITIES AND CONTROLS

01 51 00 TEMPORARY UTILITIES

1. General

- 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. The Owner does not guarantee amounts of water and electricity available from existing Owner's sources, nor shall the Owner be responsible for interruptions in service.

01 51 13 TEMPORARY ELECTRICITY

1. Service Required:
 - a. 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 the Contractor shall be removed in a manner approved by the Owner's Representative. Electric power shall be provided by the Owner at no cost to the Contractor.
2. Electric Service:
 - a. The Contractor shall verify characteristics of power available in building. Where power of higher voltage or different phase of current is required, the Contractor shall be fully responsible for providing such service and shall pay all costs required therefore. Service connections shall be made by the 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:
 - i. Power for small tools and lighting may be taken from the existing 120 Volt 60 Hz 1-phase convenience receptacles in the building.
 - ii. Power for larger equipment may be taken directly from the existing 208Y/120V 3-phase 4-wire lighting panelboard on the same floor of this Project.
 - iii. The load connected to any circuit shall not exceed 25% of the circuit or feeder capacity as labeled in the panelboard.
 - iv. There shall be no disturbance to building occupants and functions. Cables and conductors shall not prevent closing of fire labeled doors.
 - b. Provide conduit and wires, drops, circuit breaker and disconnect switches. Temporary electric service shall be removed when no longer required. Characteristics of current furnished by the Owner is limited to that existing and available; if current of other characteristics or quantity is required by the Contractor, it shall supply the power as necessary at no extra cost to the Owner.
 - i. At its own expense, the Contractor shall repair and make good all damage to existing electrical facilities caused by the Contractor's use, as requested and approved.
3. Requirements of Regulatory Agencies: Comply with applicable State and Federal codes, regulations and requirements. All work shall be done in accordance with applicable California Administrative Codes
4. Use of Permanent System: Any part of the permanent electrical system which is used for construction purposes shall be operated in a manner so as to ensure the safety of all personnel and to prevent interference with the orderly progress of the Work. The Owner shall provide and pay for necessary power required during the course of construction. The Contractor shall be responsible for providing temporary facilities required to deliver such utility services from their existing location in the building to the point of intended use.

01 51 16 TEMPORARY FIRE PROTECTION

1. Where the existing fire protection system of the building is inadequate or impaired by construction operations, provide temporary fire protection for the building during the course of construction.
 - 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.
 - b. Install a reduced pressure type backflow device, approved by the Owner's Representative, at point of connection to the Owner's water system.
2. Use fire protection equipment only for fighting fires.

01 51 26 TEMPORARY LIGHTING

1. The Contractor shall furnish, wire, install and maintain temporary electric lights wherever it is necessary to provide illumination for the proper performance and observation of the Work.

01 51 33 TEMPORARY TELECOMMUNICATIONS

1. Telephone service shall not be provided by the Owner, except in case of emergency involving life and safety. The Contractor shall make arrangements for temporary telephone service. The telephone services must comply with e911 and route to UCPD for fire, police and medical response.

01 51 36 TEMPORARY WATER

1. Water service shall be provided at locations where shown and as approved. The 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 the Contractor shall be removed in a manner approved by the Owner's Representative. Water shall be provided by the Owner at no cost to the Contractor.
2. Use backflow preventers on water lines at point of connection to the Owner's water supply. Backflow preventers shall comply with requirements of the Uniform Plumbing Code.

01 52 00 CONSTRUCTION FACILITIES

01 52 13 FIELD OFFICES AND SHEDS

1. Temporary Job Office
 - a. Maintain a complete set of Contract Documents, all reviewed shop drawings, submittals, samples, and all executed Change Orders at job site in locked storage box.
2. Site Decorum
 - a. The Contractor shall control the conduct of its employees so as to prevent unwanted interaction initiated by the Contractor's employees with University students, University faculty, University staff, or other individuals (except those associated with the Project), adjacent to the Project site. Without limitation, unwanted interaction by the Contractor's employees shall include whistling at or initiating conversation with passersby. In the event that any of the Contractor's employees initiates such

unwanted interaction, the Contractor shall, either upon request of the Project Manager or on their own initiative, replace said employee with another of equivalent technical skill, at no additional cost to the Owner.

3. Project Security
 - a. The Contractor is responsible for project security of materials, tools, equipment, supplies and partially completed construction.
4. No Smoking In Buildings and Outdoor Spaces
 - a. The University has adopted a no-smoking provision in all campus buildings and all outdoor spaces. The Contractor, its forces and its employees shall observe this requirement while performing work in all University buildings and outdoor spaces.
 - b. Effective January, 2014, smoking, the use of tobacco products, and the use of unregulated nicotine cigarette products (e.g. "e-cigarettes") is strictly prohibited in all campus indoor and outdoor spaces, including sidewalks, greenways, parking lots, roads and private residential spaces.
 - c. Failure to comply with the above shall result in citation and fine by UCPD.
5. Radios
 - a. The playing of radios on University project sites is prohibited at all times. The Contractor, its forces, and its employees shall observe this requirement while performing work on the University Project site.

01 52 16 *SANITARY FACILITIES*

Toilet facilities for use by workers on the job or other personnel of the Contractor shall be provided by the Owner in existing toilet facilities; these shall be used for toilet purposes only and not for disposal of materials or cleaning of tools. Contractor shall be responsible for cleanliness.

01 54 00 *CONSTRUCTION AIDS*

01 54 13 *TEMPORARY ELEVATORS*

1. Existing Elevators
 - a. The Contractor shall obtain special permission from the Owner in order to use existing building elevators for construction operations.
 - b. The Owner shall specify which elevator(s) shall be used for construction purposes. A freight elevator is available for use by the Contractor. The Contractor is responsible for any damages to the existing elevator(s) due to the Construction process and shall take adequate precautions to protect the elevator(s).
 - c. At least one (1) elevator in the University/Owner's Building shall be operable at all times during construction to provide access for disabled persons.

01 55 00 *Vehicular Access and Parking*

1. Parking and Access To Site
 - a. Parking is available on site for those vehicles that fit in the facilities garage with prior written permission provided by the University.

01 55 26 TRAFFIC CONTROL

1. Provide traffic control barriers and flag persons throughout the construction period.
 - a. Provide flag persons 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.
 - b. Provide temporary traffic control barriers to ensure safety of all persons and property.
 - c. Provide numbers of flag persons necessary for vehicular and pedestrian traffic control. Flag persons shall be on duty at all times when the Work is in progress.

01 56 00 TEMPORARY BARRIERS AND ENCLOSURES**01 56 16 TEMPORARY DUST BARRIERS**

1. The Contractor shall employ measures to prevent the creation of dust, air pollution and odors.
 - a. All volatile liquids including fuels or solvents, shall be stored in closed containers.
 - b. No open burning of debris, lumber or other scrap shall be permitted.
 - c. The Contractor shall provide street sweeping whenever silt from the construction site is carried over to adjacent public thoroughfares.

01 56 19 TEMPORARY NOISE BARRIERS

1. The following noise control procedures shall be employed (these requirements may be modified for projects as required by Environmental Impact Report Mitigation Measures where needed):
 - a. Maximum Noise: The Contractor shall use equipment and methods during the course of this Work that are least disruptive to adjacent buildings, offices, or residences. Note: Modify the following, if necessary, for E.I.R. Mitigation Measures (if any). Noise levels for trenchers, graders, trucks and pile drivers shall not exceed ninety decibels (90 dBA) at fifty feet (50'-0") as measured under the noisiest operating conditions. For all other equipment, noise levels shall not exceed eighty-five decibels (85 dBA) at fifty feet (50'-0").
 - b. 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.
 - c. 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.
 - d. Scheduling: Noisy operations shall be scheduled so as to minimize their disturbance to occupied adjacent areas and duration at any given location.

01 56 23 TEMPORARY BARRICADES

1. Provide temporary barricades as necessary. Interior barricades may be either fire-retardant durable polyethylene sheeting or stud framing with fire-resistant sheetrock on one side. Maintain barricades in a clean and neat condition until no longer required and removal is approved or requested.
2. Barricades shall not encroach on required exit widths.

01 56 39 TEMPORARY TREE AND PLANT PROTECTION

1. General
 - a. Summary
 - i. Protect existing trees not specifically designated for removal, including pruning, protection and irrigation during site work and construction.
 - b. Quality Assurance
 - i. Pruning and transplanting work shall be done as directed by Owner.
 - c. Scheduling
 - i. Install barricades before starting construction.
 - d. Guarantee
 - i. If a tree to remain is destroyed, or damaged so that in the judgment of the Owner's Representative or the Owner it should be replaced, it shall be removed at Contractor's expense. Damages will be assessed at the rate of \$350.00 per inch of circumference at twelve inches (12") above grade for trees with a diameter of eight inches (8") or less and at Diameter at Breast Height (DBH) for diameters greater than eight inches (8").
2. Products
 - a. Tree Protection Materials:
 - i. Barricade:
 1. Chain-link fencing at least six feet (6') high with sufficient coverage to protect trees from any and all construction related activities.
 2. Posts: Metal, sufficient to hold fencing plumb and taut. Posts to be approved by University Representative.
 - ii. Anti-desiccant: Manufactured for use on plants. Provide evidence that material can be used on specified trees. Do not use anti-desiccant without approval of the University Representative.
3. Execution
 - a. Construction Requirements:
 - i. Protect existing trees from damage or injury.
 - ii. Permit no traffic, storage, disposal, fires or stockpiling within dripline.
 - iii. Prevent puddling or continuous running water within dripline.
 - iv. Earth surface within dripline shall not be changed. Existing mulch layer under trees shall remain.
 - v. Exercise extreme care in removing concrete or asphalt within dripline. Paving pieces shall be lifted rather than dragged. Protect surface roots immediately with four inch (4") layer of chipped mulch.
 - vi. At start of construction, irrigate trees as directed by subsurface pressure injection. Soil within the dripline shall be moist to eighteen inch (18") depth.
 - vii. Work within dripline shall be as directed by the University representative. Trenching, grading or excavation within the dripline shall be done by hand. Pipes shall be jacked or bored. Protect exposed roots with wet burlap.
 - viii. Clearly mark trees to remain with removable flags of a different color than trees flagged for removal.
 - b. Barricades:

- i. Install barricades around trees.
 - ii. Locate fence at dripline as directed by the University Representative.
 - iii. Locate roots before setting post. Prevent damage to roots.
 - iv. Space posts appropriately so barricade is plumb, taut and sturdy.
 - v. Repair sagging, leaning or damaged barricades immediately. Remove barricades upon completion of work.
- c. Pruning:
- i. Only as directed by Owner.

4. Monetary Damages

- a. If a tree which is to remain is destroyed through any action by the Contractor, or damaged so that in the judgment of the Owner's Representative or Owner it should be replaced, it shall be removed at the Contractor's expense. Monetary damages will be assessed at rates established in the most recent edition of the International Society of Arboriculture Guide for Plant Appraisal.

01 57 00 TEMPORARY CONTROLS

01 57 16 TEMPORARY PEST CONTROLS

- 1. Jobsites shall designate an area in which Contractor's and subcontractors' employees shall eat their meals.
 - a. Food shall only be consumed in the designated area, with refuse being deposited in closed-lid containers until collection.

01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS

1. Codes.

- a. Applicable codes include (but are not limited to) the following:
 - i. California Code of Regulations
 - ii. California Fish and Game Code
 - iii. California Government Code
 - iv. California Health and Safety Code
 - v. California Penal Code
 - vi. California Public Resources Code
 - vii. California Water Code
 - viii. Federal Clean Air Act
 - ix. Federal Clean Water Act
 - x. Federal Endangered Species Act
 - xi. Federal Rivers and Harbors Act
 - xii. National Flood Disaster Prevention Act
 - xiii. National Flood Insurance Act
 - xiv. National Historic Preservation Act

2. General

- a. Environment, Health & Safety (EH&S) is the liaison with regulatory agencies when obtaining permits for environmental work.
- b. Refer to Section 01 57 23 for Storm Water Pollution Control specifications.

3. Air Quality

- a. Applicable codes include (but are not limited to) the following:
 - i. Federal Clean Air Act

- ii. California Health and Safety Code, Division 26, Air Resources
- iii. Bay Area Air Quality Management District, Regulations
- b. Demolition and construction activities shall be conducted in a manner that eliminates, as much as feasible, emissions of fugitive dust, aerosols, mist, smoke, odors and gaseous pollutants from the construction site. Elimination and suppression of air pollutants shall be accomplished using methods such as wetting, covering, filtration, adsorption, material substitution or any other method deemed effective by a consensus of University and supervising construction site representatives. Methods shall not pose additional hazards to site personnel nor soil or water through the transfer of captured pollutants to these receptors. Captured air pollutants shall be handled in accordance with all applicable waste laws.
- c. Activities where asbestos or asbestos containing materials are disturbed, removed, or modified shall comply with Bay Area Air Quality Management District notification and containment requirements.
- d. Abrasive blasting operations shall be entirely contained or employ a verified method that captures ninety-eight percent (98%) by weight of blast media and removed surface debris.
- e. All construction-related engines, both mobile and stationary, shall be operated and maintained in a manner that reduces emissions to the maximum extent feasible and shall be in compliance with current State and local requirements for the class of equipment or vehicle in use on site.
- f. Engine idling shall be monitored and curtailed to the maximum extent feasible.
- g. All coatings, adhesives, and surface treatments in use containing Reactive Organic Compounds shall not exceed local and State regulatory limits on percent volatiles by weight or volume nor be used in a manner inconsistent with their intended use and shall be applied and stored in a method that minimizes to the maximum extent feasible fugitive emissions from these sources.
- h. On site fueling, lubrication, and cleaning of vehicles shall occur in a method that eliminates spills and releases of fuel or volatile products. Fueling operations must include Vapor Recovery Equipment for both the fuel container and receiving vehicle or equipment where required.
- i. Smoking and the use of any tobacco products shall not be permitted on or within twenty-five feet (25'-0") of any University of California property. See 01 52 13 4.A-C.

4. Water Quality

- a. Applicable codes include (but are not limited to) the following:
 - i. Federal Clean Water Act (Section 401-402)
 - ii. Fish and Game Code (Section 5650)
 - iii. Porter-Cologne Water Quality Control Act of 1969 (Water Code Sections 13000 et seq. and California Code of Regulations Title 23, Chapter 23)
 - iv. Hazardous Waste Control Law (Health and Safety Code Sections 25100 et seq.)
 - v. San Francisco Bay Basin (Region 2) Water Quality Control Plan Policies
- b. Buildings shall be designed so that no waste-waters (such as steam condensate, cooling tower or boiler effluent) shall be discharged either directly to surface waters or indirectly to surface waters via the storm drain system. It is preferable to route building floor drains and basement sumps to the sanitary sewer system to prevent water pollution from these sources.
- c. Improper disposal of excess or remnant materials or chemicals is prohibited. No materials such as paint, stucco, plaster, cement slurry, oil, solvents, or other residual materials shall be disposed of directly to surface waters or wetlands or indirectly to

surface waters via catch basins or any other outside storm drain. No material other than uncontaminated surface water runoff should be allowed to enter the storm drain system. Residual materials or runoff from on-site cleaning of equipment, tools, brushes, etc. shall not be allowed to enter surface waters either directly or via the storm drain system.

01 57 23 TEMPORARY STORM WATER POLLUTION CONTROLS

1. Refer to Division 22 14 00: Facility Storm Drainage for requirements of permanent Storm Water remediation
2. Impervious surface area on a site shall be minimized in order to mitigate the adverse effects of storm water runoff on receiving waters. The campus shall maintain the 'no net increase' of runoff per the draft 2020 Long Range Development Plan (LRDP). This can be achieved through storm water detention practices and designs that minimize impervious surfaces and employ such methods as open paving or porous pavement surfaces. Where appropriate, storm water systems shall be designed to permit aquifer recharge.
3. General
 - a. Background
 - i. Storm drains discharge directly to creeks and the Bay without treatment. Discharge of pollutants (any substance, material, or waste other than uncontaminated storm water) from this Project into the storm drain system is strictly prohibited by the California Regional Water Quality Control Board's (RWQCB) Water Quality Control Plan (Basin Plan).
4. General Contractor Scope
 - a. Provide all material, labor, equipment, for installation, implementation, and maintenance of all surface-water pollution prevention measures. The Contractor shall not be required to maintain post-construction pollution prevention structures. This work includes the following:
 - i. All sites that will create and/or replace greater than 2,500 square feet of impervious surface area must comply with all design and operational requirements outlined for Non-Traditional Permittees in the State Water Board's Phase II Small MS4 General Permit, Waste Discharge Requirements Order No: 2013-0001-DWQ. Post-Construction Site Design Measures will be documented with the State's 'Post-Construction Water Balance Calculator' and additional hydro-modification facilities will be registered with UCB EH&S. Projects must also submit a Storm Water Pollution Prevention Plan to UCB EH&S.
 - ii. Construction sites that will disturb (e.g., digging, trenching, grading, clearing, filling) greater than 1 acre of site soil will be required to register for the State Water Board's Construction General Permit Order No: 2009-0009 in that agency's Storm Water Multiple Application and Report Tracking (SMART) System.
 - iii. Furnishing, placing, and installing effective measures for preventing erosion and runoff of soil, silts, gravel, hazardous chemicals or other materials prohibited by the San Francisco Bay Region Water Quality Control Board from entering the stormwater drainage system.

- iv. Management of on-site construction materials in such a manner as to prevent said materials from contacting stormwater or wash water and running off into the storm drain system.
 - v. Complying with applicable standards and regulations per Paragraph 1.03.
 - vi. Include post-construction stormwater pollution prevention structures in the stormwater pollution prevention plan. Contractor shall use construction drawings as the reference for post-construction BMPs.
- b. This section does not replace any other relevant section of the project specifications. Where sections are in disagreement, the more stringent requirement shall apply.
 - c. In this section, the term "storm drain system" shall include storm water conduits, storm drain inlets and other storm drain structures, street gutters, channels, watercourses, creeks, lakes, and the San Francisco Bay.
 - d. Sanitary sewer discharge regulations are intended to provide protection of the sanitary sewer system and East Bay Municipal Utility District's (EBMUD) water pollution control plant. In this section, "sanitary sewer" shall include any sanitary sewer manhole, clean-out, side sewer or other connection to the EBMUD wastewater treatment plant.
 - e. The Contractor shall have storm drain pollution prevention measures in place and follow this specification during the rainy season (October 1 through May 1), and anytime rain is predicted in the San Francisco Bay Area. It is the responsibility of the Contractor to be prepared for a rain event in the non-rainy season, and to be aware of weather predictions. The University is not responsible for informing the Contractor of rain predictions.
 - f. Sanitary sewer blockage will likely result in a back-up and overflow to the storm drain system. The Contractor shall immediately notify the Project Manager or the Inspector of Record if there is a clogged sanitary sewer.
 - g. The Contractor shall not allow any non-storm water to enter the storm drain system. Non-storm water includes domestic supply water used to wash streets, painting and drywall equipment, tools, equipment, or vehicles.

5. Regulations and Standards

- a. Contractor shall comply with the following applicable regulations:
 - i. Clean Water Act, United States Environmental Protection Agency, and Porter-Cologne Clean Water Act, State of California.
 - ii. "San Francisco Bay Basin (Region 2) Water Quality Control Plan" (Basin Plan), California Regional Water Quality Control Board, 1995 Edition.
 - iii. Regional Water Quality Control Board – Construction General Permit — Stormwater Pollution Prevention Order No: 2009-0009-DWQ.
 - iv. Small Municipal Separate Storm Sewer System (MS4) General Permit (Section F. Non-Traditional Small MS4 Permittee Provisions), Waste Discharge Requirements Order No: 2013-0001-DWQ.
- b. Contractor shall comply with the following standards and guidelines on storm drain pollution prevention:
 - i. *Stormwater Best Management Practice Handbook – New Development and Redevelopment*, California Stormwater Quality Association
Order From: California Stormwater Quality Association,
P.O. Box 2105, Menlo Park,
CA 94026-2105
Phone: (650) 366 -1042

- ii. *Erosion and Sediment Control Field Manual*; California Regional Water Quality Control Board (RWQCB)—San Francisco Bay Region, Third Edition, July 1999.

Order From: San Francisco Estuary Project
1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2465

- iii. *Construction Site Monitoring Program Guidance Manual*; CalTrans

Order From: Storm Water Liaison,
Caltrans Division of Environmental Analysis,
MS 27, P.O. Box 942874
Sacramento, CA 94274

6. Submittals/Deliverables

- a. Submit a Storm Water Pollution Prevention Plan (SWPPP) to the Construction & Design Project Manager for plan approval. Contractor shall not disturb soil onsite until the University approves the plan.

••• If the project disturbs greater than one (1) acre of soil, the University shall send a "Notice of Intent" (NOI) to the RWQCB, with the applicable fee (Contractor shall supply Owner with the check for this fee). Upon completion of the Project, the University shall send a "Notice of Termination" (NOT), as required by the RWQCB. All permit-related documents shall be submitted to the RWQCB by UCOP EH&S.

The plan shall include the following:

1. Title Page. The title page shall primarily identify that the document is a SWPPP. Elements that shall be included on the title page are the following:
 - a. UCB Project Name and UCB Project Number,
 - b. Owner and Contractor of the Project,
 - c. Contact person(s)/address/daytime and emergency phone numbers with area codes.
 - d. ••• Waste Discharge Identification Number (WDID No.) for the Project. This number is assigned by the RWQCB upon submission of the NOI. The number shall be included in the plan after it is assigned.

2. •••Certification Page

The Contractor shall include a certification page immediately following the SWPPP title page. This page shall be signed by the University and state the following:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting

false information, including the possibility of fine and imprisonment for knowing violations.”

Name, Title

Date of Preparation

3. •••Amendments

The Contractor shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, or a municipal separate storm sewer system. The SWPPP shall also be amended if it is in violation of any condition of the State of California General Permit or has not achieved the general objective of reducing pollutants in storm water discharges. In addition, the University shall require the Contractor to amend the SWPPP if the discharge is in violation of the RWQCB San Francisco Bay Basin (Region 2) Water Quality Control Plan.

The following items shall be discussed in the Amendment section as appropriate:

- a. Location of proposed change shall be shown on the site map, and referenced in the Amendment section of the SWPPP.
- b. Describe the existing condition and why it is being amended.
- c. List the person or agency who requested the amendment.
- d. Describe the new control measure.
- e. Attach a certification page to the beginning of the amendment.

4. Table of Contents

- a. Include a Table of Contents in the SWPPP, including page numbers.

5. Introduction

- a. The Introduction shall provide the following information:
 - i. Type and size of the construction project, including land area in acres.
 - ii. Project location, including county, and address.
 - iii. The beginning date of the Project groundbreaking.
 - iv. The beginning and end dates for all phases.

6. Source Identification and Best Management Practices

- a. Identify storm water and non-storm water pollutant sources at the construction site. Choose an appropriate storm water pollution prevention best management practice (BMP) to control the pollution source.
- b. Provide in the SWPPP a geographical description of potential storm water pollution sources. Topographic and site maps shall be used for this purpose.
 - i. Topography Map
 1. The map shall extend approximately one quarter mile beyond the construction site boundary and show the following: the construction site, surface water bodies (including springs and wetlands), known wells, an

outline of off-site drainage discharging into the construction site, general topography, and the storm water discharge locations for construction site storm water.

2. The Contractor shall use a U.S. Geological Survey quad map and shall modify it to show the required information. Include dimensions, scale, legends, flow direction of water bodies, run-on and run-off water and drainage, drainage locations, and delineation of permanent erosion and sediment control measures.

ii. Site Map

1. The Contractor shall identify pollution sources, construct and implement storm water and non-storm water pollution prevention BMPs at the construction site. The Contractor shall implement the SWPPP. The Contractor shall include SWPPP for the post-construction pollution sources and erosion and sediment control BMPs. A separate map may be used for showing the locations of the post-construction BMPs.
2. The site map shall be one (1) or more detailed map(s) showing the location of pollution sources, (e.g. construction site drainage patterns, grading activities that change drainage patterns, drain inlets, hazardous materials storage, contaminated soil). The site map shall show the location of BMPs designed to prevent pollution sources from causing storm water or non-storm water pollution. The Contractor shall choose the best available performance-based technology and methods to prevent storm water pollution for construction site activity. Many of those methods are detailed in the reference materials listed in Regulations and Standards, above.
3. The following is a list of BMPs, geographic features or pollution sources to be shown (if applicable) on the site map. Further detail on these topics is in "Execution" of this Section below (Paragraph number in parentheses).
 - a. Storm water flow drainage patterns and grading activities that change drainage patterns (10);
 - b. Perennial, intermittent or seasonal surface water bodies, oceans, lakes, rivers, creeks or streams, ponds, springs, and wetlands. (11)
 - c. Areas of existing vegetation (12)
 - d. Areas of disturbed soil (13)
 - e. Existing and planned paved areas and buildings (14)
 - f. Dust suppression water management (15)
 - g. Fire hydrant protection (16)
 - h. De-watering and sediment settling (17);
 - i. Erosion and sediment control measures (18);
 - j. On-site soils movement and storage (19);

- k. Site ingress and egress mud tracking prevention (20);
- l. Storm drain inlet protection (21);
- m. Construction materials storage (22);
- n. Concrete, mortar, saw cutting (23);
- o. Sanitary Sewer Discharge Point Identification (24);
- p. Fueling, washing and equipment cleaning (25);
- q. Building wash or hydro-blasting water management (26);
- r. Inspection, monitoring and maintenance of BMP control structures (27);
- s. Spill Prevention and Control (28);
- t. Water Main Break Contingency Plan (29);
- u. Housekeeping Practices (30);
- v. Post-construction storm water run-off control measures (31);
- w. Personnel training (32);
- x. List of Contractors and phone numbers (33);
- y. Or other appropriate site-specific storm drain pollution prevention methods necessary to achieve the objectives stated in Section 4: General Contractor Scope, above.

7. Materials

a. General

- i. Provide materials as required for execution of the Work.

8. Execution

- a. For each applicable sub-part(s) below, the Contractor shall delineate on the site map BMP locations and provide a detailed description in the plan for pollution prevention structures or methods that shall be constructed, implemented and maintained on site.

9. Surface Water Locations

- a. All surface water locations shall be clearly delineated on the site map. Surface water bodies include: oceans, lakes, rivers, creeks or streams, ponds, springs and wet lands. Include intermittent or seasonal surface water bodies. Estimate the storm water flow onto the site, assuming a ten (10) year six-hour (6h) rain event. Estimate the volume of water the site could contain in trenches, excavations, pier holes, or pits for the different phases of work.

10. Construction Materials Storage

- a. Storage and exposure of raw materials, byproducts, finished products, and hazardous materials containers shall be controlled as described below:
 - i. All construction materials shall be stored at least ten feet (10'-0") away from storm drain system inlets, catch basins, and curb returns.
 - ii. The Contractor shall not allow any material to enter the storm drain system.
 - iii. At the end of each working day, the Contractor shall collect and prepare for disposal all scrap, debris, and waste material generated by Project activities.
 - iv. During wet weather or when rain is in the forecast, the Contractor shall store materials, (that can flow or be transported by storm water), inside a building

- or under a secured waterproof covering to prevent accidental release to the storm drain system. Examples: use sealed debris bins in rainy weather; store fuel containers out of the weather; cover soil, sand, or debris piles with tarps.
- v. The Contractor is responsible for ensuring that storage and disposal of all hazardous materials brought on site for this project (e.g., coatings, thinners, solvents, and fuels), and all hazardous waste generated during project activities (e.g., waste oil) is in compliance with all applicable federal, state, and local standards and requirements.
 - vi. Liquid materials shall be stored in secondary containment. The containment shall be designed to hold at least 110% of the volume of the largest stored container.

11. Concrete, Mortar, Saw Cutting

- a. For concrete or mortar application to be performed on-site, the Contractor shall comply with the following provisions:
 - i. Washing sweepings of exposed aggregate concrete into the street or storm drain system as defined in this Specification is prohibited. Collect and return sweepings to aggregate base stockpile, or dispose of as construction debris.
 - ii. Do not wash out concrete trucks and equipment into the storm drain system. Whenever possible, perform washout of concrete trucks (if any) and equipment off-site where discharge is controlled.
 - iii. If on-site washout of trucks and equipment is necessary, then the Contractor shall comply with the following procedures:
 - 1. Locate washout area at least fifty feet (50'-0") from storm drains, open ditches or water bodies, preferably in a dirt area.
 - 2. Do not allow storm water run-off from the washout area.
 - 3. Construct a temporary pit or berm-enclosed area large enough to contain the wash-water and surplus concrete waste.
 - 4. Wash out concrete waste into the temporary pit where the concrete can set, be broken up, and then disposed of as construction debris. If the volume of water is greater than what will allow concrete to set, allow the wash water to concentrate and/or evaporate, if possible. Otherwise, allow water to settle before filtering it, and then pump to the sanitary sewer (as long as the pH is less than hazardous waste limit of 12.5).
 - iv. Wash-water from tools used for mixing mortar, in sheet rock work, plaster, drywall, mortar work or similar work shall be settled before disposal to the sanitary sewer. Solids shall be disposed to the debris bin. This wash-water is prohibited from storm water discharge.
 - v. Concrete sawing or drill cutting lubricating/cooling water or shall be collected using a wet-vacuum. The lubricating/cooling water shall be settled before disposal to the sanitary sewer. Solids shall be disposed to the debris bin. This lubricant/cooling water is prohibited from storm water discharge.

12. Sanitary Sewer Discharge Point Identification

- a. If the Contractor will be disposing of water from a settling operation, or any other water approved by EH&S for sanitary sewer disposal, the Contractor shall verify with Facilities Services Utilities Operations unit that the manhole used for disposal is a sanitary sewer and not a storm drain. (Note: Do not assume that a manhole is a sanitary sewer, even if the words "sanitary sewer" are embossed on it. Sometimes

utility maps and manhole cover designations are incorrect.) The Contractor shall be given Facilities Services' contact information by the Project Manager.

13. Fueling, Washing and Equipment Cleaning

- a. The Contractor shall not perform vehicle cleaning on site, unless a properly designed wash area prevents run-off from entering the storm drain system. Domestic water supply is prohibited from entering the storm drain because it contains chloramines. It can go to the sanitary sewer if the sediment is allowed to settle before discharge and it meets the standards of the EBMUD Wastewater Discharge Permit pollutant strength limits.
- b. If fueling must occur on-site, use designated areas away from drainage. Locate on-site fuel storage tanks within a berm-enclosed area designed to hold the tank volume. The area shall be covered so that rain water will not get into the berm-enclosed area. The berm-enclosed area shall be lined so that leaks, spills or drips will not contaminate the soil. Use secondary containment while fueling or changing fluids to catch drips or small spills.
- c. The Contractor shall dispose of wash water from the cleaning of non-hazardous water-based coating equipment (such as latex paints or drywall compounds) and tools to the sanitary sewer. Unused latex paint, oil based paint, used or new paint thinner and solvents are prohibited from disposal to the sanitary sewer and the storm drain system. The Contractor shall dispose of these wastes in accordance with federal, state, and local hazardous waste and solid waste regulations.

14. Inspection, Monitoring and Maintenance Of Pollution Control Systems

- a. Inspect the site before and after storm events, or during any storm event lasting more than twenty-four (24) hours. Inspections shall be done during the storm water observation period (October 1 through May 1) to ensure that storm drain pollution prevention controls are in place. Provide documentation of these inspections, and improvements or modifications of the control systems. The Contractor shall designate an inspector and list the name and contact information of the inspector in the list of Project contacts as required by the contract submittals. The Contractor shall maintain structural controls and updates/amendments to the SWPPP. Representatives from UCOP shall conduct periodic inspections of the site to verify adequacy of storm drain pollution prevention controls and compliance with applicable regulations and standards as stated in subpart 1.03(A).
- b. UCOP shall disclose historic site activities that may have included the use of hazardous materials (e.g., gas station, dry cleaner, underground storage tank, manufacturing facility) and that have or are suspected to have caused pollution at the Site. The University shall write and implement a plan to monitor, sample and analyze storm water discharges for pollutants related to the construction activity. If applicable to Site conditions, the Contractor shall include this hazardous materials monitoring plan in the SWPPP.

15. Spill Prevention and Control

- a. The Contractor shall take precautions to prevent accidental spills of pollutants, including hazardous materials brought onsite by the Contractor. However, in the event of a spill, the Contractor shall be held responsible for the following:
 - i. Immediately contain and prevent leaks and spills of prohibited pollutants from entering the storm drain system. Clean up the spill and label the container. Store the container in a safe place and contact the Project Manager to

- arrange disposal of the waste. The Contractor shall keep a spill kit on site at all times for this purpose.
- ii. The Contractor shall comply with all federal, state, and local hazardous waste requirements and ensure that no spilled materials are washed into the storm water or non-storm water systems.
 - iii. Report any hazardous or unknown material spills immediately to Tim Dowing, Building Engineer at 510-919-3901.
- b. The Contractor is responsible for ensuring that its employees and subcontractors (if any) working on site are aware of the location of the campus phone nearest the Project site.

16. Water Main and Sanitary Sewer Line Break Contingency Plan

- a. If working on or near a water main line or sanitary sewer line, the Contractor shall have a written emergency response plan that states procedures for responding to a break and release of supply water to the storm drain system. The Contractor shall meet the following requirements:
 - i. Water Main Work
 1. Determine the direction of water flow if the main were to break.
 2. Build a containment berm between the work area and the storm drain inlet(s) that the water would flow into. Make the containment structure large enough to hold the water so that it can be pumped to a sanitary sewer.
 3. Build this containment structure before digging.
 4. If there is a water main break, pump the water that collects in the containment structure to a sanitary sewer.
 5. If the containment fails, prevent chlorinated water from entering the storm drain system by placing dechlorination sodium sulfite tablets in the sewage according to Attachment 2 of this Section.
 6. Put in place, before digging, sediment control structures upstream of drain inlets and at drain inlets.
 7. If a break occurs, contact the Project Manager (PM) or Inspector of Record immediately. Include in the plan the phone numbers of the PM and EH&S contacts.
 - ii. Sanitary Sewer Line Work
 1. This sub-part applies only to Contractors who are hired to work on sanitary sewer lines and are trained to work near sewage.
 - a. Determine where the sewage will flow if the Work could cause a blockage.
 - b. Build a containment structure between the work area and the storm drain inlet(s) that the sewage water would flow into. Make the containment structure large enough to hold the sewage flow so that it can be pumped to a sanitary sewer.
 - c. Build the containment before working on the sewer line. Put in place, before digging, solids (toilet paper, etc.) control structures upstream of drain inlets and at drain inlets.
 - d. If a sewage blockage occurs, pump it to a sanitary sewer, and do not allow it to flow into the storm drain system.
 - e. If the containment fails, prevent chlorinated water from entering the storm drain system by placing dechlorination sodium sulfite tablets in the sewage according to Attachment 2 of this Section).

- f. If a sewage blockage or spill occurs, contact the Project Manager or Inspector of Record immediately. The PM will immediately notify EH&S. Include in the plan the phone numbers of the PM and EH&S contacts.
- iii. Excavation Work
 - 1. This Paragraph applies to Contractors who excavate in the vicinity of sanitary sewer lines and cause or discover a sewage spill, leak or blockage.
 - a. Immediately notify the Project Manager (PM). The PM shall immediately notify EH&S. Include in the plan the phone numbers of the PM and EH&S contacts.

17. Housekeeping Practices

- a. The Contractor shall implement the following applicable good housekeeping practices:
 - i. Store materials that have the potential to be transported to the storm drain system by storm runoff or spillage away from areas of heavy traffic and under cover in a contained area or in sealed waterproof containers.
 - ii. Use tarps on the ground to collect fallen debris or splatters that could contribute to storm water pollution.
 - iii. Secure opened bags of powdered materials (if any) that could contribute to storm water pollution and visible dust emissions.
 - iv. Pick up litter, construction debris, and other waste generated by Project activities daily from adjacent areas, including the sidewalk area, gutter, street pavement, and storm drains impacted by the Project. All wastes shall be stored in covered containers, disposed of, or recycled immediately.
 - v. Clean sidewalks, driveways, or other paved areas within the construction site to eliminate or prevent mud-tracking conditions. Vacuuming, power sweeping, or manual sweeping is acceptable. Dispose of sweepings in a place that shall not pollute the storm drain system. Domestic water may be used but it shall be contained and directed to landscapes or the sanitary sewer. The discharge of wash-water to the storm drain system is prohibited.
 - vi. Inspect vehicles and equipment arriving on site for leaking fluids, and promptly repair leaking vehicles and equipment. Use drip pans to catch leaks until repairs are made.
 - vii. Avoid spills by handling materials carefully. Keep a stockpile of appropriate spill clean-up materials, such as rags or absorbent materials, readily accessible on site. Clean up all spills of materials brought on site for project activities according to the requirements of these specifications.
 - viii. Train employees regularly on good housekeeping practices and procedures. Assign responsibility to specific employees for inspecting good housekeeping, and responding to spills.

18. Personnel Training

- a. The Contractor shall train its employees working on the site on the requirements contained in this Section. The Contractor shall document this training in writing. University Representatives for the site will request to see the training materials and records at the onset of work.
- b. The Contractor shall inform all subcontractors (if any) of the water pollution prevention requirements contained in this specification and include appropriate subcontract provisions to ensure that these requirements are met.

19. List Of Contractors Designated SWPPP Contacts and Phone Numbers

- a. Provide a list of employees who shall be responsible for writing, implementing and updating the SWPPP.

01 58 00 PROJECT IDENTIFICATION

01 58 13 TEMPORARY PROJECT SIGNAGE

1. Advertising Signage: The use of Contractor or subcontractor advertising signage is prohibited except as approved by the Owner's Representative in a written contract between the advertising entity and the owner. Do not display such advertising or job signs except as may be required for identification and deliveries as approved by the Owner's Representative.
2. Owner-Furnished Warning Signs: Whenever required by the Owner's Representative, post Owner-furnished warning signs in locations as directed.

01 60 00 PRODUCT REQUIREMENTS

01 61 00 COMMON PRODUCT REQUIREMENTS

1. Manufacturers of products shall have produced said product (or like product) for at least five (5) years.
2. Cut sheets, installation manuals, and operations and maintenance manuals for each product shall be published, in English, on the manufacture's website and easily accessible. Contractor to furnish this documentation via submittals outlined in 01 78 00 *Closeout Submittals*.
3. Manufacturers shall have been doing business in the State of California for a minimum of five (5) years.

01 64 00 OWNER-FURNISHED PRODUCTS

1. General
 - a. Certain materials, equipment and other items are identified in the Contract Documents as being furnished by the Owner and installed by the Contractor.
 - b. In all cases so identified, the Contractor shall give timely notice to the Owner's Representative of its readiness to perform the Work.
 - c. The Contractor shall receive all material furnished by the Owner or others at the Project site, as designated by the Owner's Representative. Upon delivery, the Contractor shall inspect the material and notify the Owner's Representative of any damage or insufficiency that would preclude the Contractor performing the Work.
 - d. Where material furnished by others requires connections or attachments made by Separate Contractors for other Bid Packages, the Contractor shall coordinate with such other Separate Contractors to assure a complete installation.
 - e. The Contractor shall store and protect material furnished by the Owner and assume all responsibility for security and protection of such equipment from the time it is received through Final Completion.
 - f. Once received by the Contractor, all material or equipment furnished by the Owner and installed by Contractor shall be subject to all terms of the Contract, including General Conditions.

01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

01 71 00 EXAMINATION AND PREPARATION

01 71 23.16 CONSTRUCTION SURVEYING

1. Surrounding Site Condition Survey
 - a. Prior to commencing the Work, the Contractor and the Owner shall tour the Project site together to examine and record the damage to existing adjacent buildings and improvements. This record shall serve as a basis for determination of subsequent damage due to the 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 the Owner's Representative.
2. Laying Out Of The Work
 - a. Actual field conditions deviating from the Drawings shall be reported to the Owner's Representative before proceeding, and the Contractor shall bear the expense of corrective work necessitated by its failure to so report. The Contractor shall employ a California registered Civil Engineer or Land Surveyor to lay out the Work and set grades, lines, levels, and positions throughout the Project site. (Note: Delete if not applicable.) Before beginning the Work, locate general reference points, establish monuments, and take action as is necessary to prevent their destruction; then lay out all lines, elevations, and measurements for buildings, grading, paving, utilities, and other parts of the Work. Verify figures and dimensions shown on the Drawings and accept responsibility for any error resulting from failure to so verify, including the cost of any additional re-surveying. Establish permanent monuments on curbs, manholes, or pavements, or with concrete embedded steel pipe with lead plug and brass nail, as approved.
3. Examination Of Existing Conditions
 - a. Verify measurements in field, as required, for work fabricated to fit job conditions. Before starting work, examine adjoining work on which installment is in any way dependent for perfect workmanship and fit. Submit written description of any existing deficiencies detrimental to proper and timely installation of work to the Owner's Representative.

01 71 33 PROTECTION OF ADJACENT CONSTRUCTION

1. Protection Of Existing Structures and Utilities
 - 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 the Owner.
 - b. The Contractor shall 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 at no increase in Contract Sum or Contract Time.
 - c. If any other structures or utilities are encountered, request the Owner's Representative to provide 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.
 - e. Shoring:

- i. General Protection. Pursuant to Labor Code Sections 6705 and 6707, the 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.
 - ii. Before beginning excavation five feet (5'-0") or more in depth, the Contractor shall submit to the Project Manager a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazards of caving ground during the excavation. The proposed plan shall comply with the State of California Construction Safety Orders 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 registered civil or structural engineer whose name and registration number shall be indicated on the Drawing(s). If a dispute arises as to whether the plan must be prepared by a registered civil or structural engineer, the Project Manager's determination of the matter shall be final and conclusive. The cost of required engineering services shall be borne by the Contractor and shall be deemed to have been included in the amount bid for the Work as stated in the Agreement.
 - iii. Neither the review nor approval of any plan showing the design of shoring, bracing, sloping, or other provisions for worker protection, shall relieve the Contractor from its obligation to comply with Construction Safety Orders Standards and Title 24 CCR for the design and construction of such protective Work, and the Contractor shall indemnify the Owner and the Project Manager from any and all claims, liability, costs, action and causes of action arising out of or related to the failure of such protective systems. The Contractor shall defend the Owner, its officers, employees, and agents and the Project Manager in any litigation of proceeding brought with respect to the failure of such protective systems.
 - iv. Comply with State of California Construction Safety Orders, Article 6 - Excavations, Trenches, Earthwork whether or not the excavation, trench, or earthwork is five feet (5'-0") or more in depth.
2. Care Of Existing Facilities
 - a. The Contractor shall be responsible for repair or replacement of existing facilities including any landscaping, paving, roads and sidewalks damaged as a result of the performance of this Work. Any facilities or finishes damaged shall be repaired or replaced with materials and workmanship equivalent to that employed in executing the original work and to the satisfaction of the Owner's Representative.
 - b. The Contractor shall take care not to overload the existing structure by storing material, erecting shoring, placing equipment or other materials upon or against the building.
 - c. Do not park any vehicles, store materials or cross over landscaped areas. Any plant materials damaged as a result of the performance of this Work shall either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged material as determined by the Owner's Representative. See 01 56 39: Temporary Tree and Plant Protection.
3. Noise and Dust Control
 - a. The Contractor shall note that the building and adjacent facilities shall remain in operation during the entire construction period, and shall take all reasonable precautions to eliminate dust and minimize noise.
 - b. The Contractor shall erect temporary partitions to confine noise and dust as required.

4. Access and Exit-Ways

- a. Do not interfere with use of or access to occupied portions of building or adjacent property.
- b. Maintain all corridors, stairs, halls and other exit-ways of occupied buildings clear and free of debris or obstructions at all times.

01 73 00 EXECUTION

1. Material and Equipment

- a. General:
 - i. All material and equipment incorporated in the Work shall be:
 1. New.
 2. In condition acceptable to Owner's Representative.
 3. Suitable for intended use.
 - ii. Keep materials clean, dry, and undamaged.
- b. UL Label: Materials and equipment for which UL standards have been established and their label service is available, shall bear the appropriate UL Label.
- c. Manufacturer's Trade Marks and Names: Owner'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 at no increase in Contract Sum.
- d. Delivery of Materials: Deliver all materials in the original packages, containers or bundles bearing the name, brand, type and grade of material of the manufacturer or the supplier for whom the product is manufactured.

2. Apparatus and Equipment Locations

- a. Locations of apparatus and equipment indicated on the Drawings (if any) are approximate only, and are subject to change to suit operational service as approved by the Owner's Representative.
- b. 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 the Owner's Representative.

3. Welding and Burning

- a. Welding and burning of steel shall be eliminated as much as possible. When unavoidable, welding and burning shall be done with all possible precaution to avoid fire hazard. Contractor shall provide a fire watch for one-half (1/2) hour after all burning stops. The Contractor shall provide protection for all adjacent surfaces.

4. Excavation, Shoring and Trenching

- a. Refer to 01 71 33 (1e: Shoring) for additional requirements.

01 73 29 CUTTING AND PATCHING

Whenever any cutting, removal, or alterations of existing work is required to form connections with new work or otherwise meet the requirements of the Contract Documents, perform such work so as not to damage the work that shall remain in place. Perform patching and repairs occasioned thereby using materials, construction details, and finishes matching those of the existing work as closely as possible and to the approval of Owner's Representative.

1. General

- a. The Contractor shall be responsible for all cutting, fitting and patching required to complete the work and to:
 - i. Make its several parts fit together properly.
 - ii. Uncover portions of the Work to provide for installation of ill-timed work.
 - iii. Remove and replace work not conforming to requirements of the Contract Documents.
 - iv. Provide routine penetrations of nonstructural surfaces for installation of electrical conduit, plumbing and ductwork.

2. Submittals

- a. Submit a written request to Owner's Representative well in advance of executing any cutting or alteration which affects:
 - i. The Work of the Owner or any separate Contractor.
 - ii. The structural value or integrity of any element of the existing building.
 - iii. The integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - iv. The efficiency, operational life, maintenance or safety of operational elements.
 - v. The visual qualities of sight-exposed elements.
- b. The request shall include:
 - i. Identification of the Project.
 - ii. Description of the affected work.
 - iii. The necessity for cutting alteration.
 - iv. The effect of the Work on the Owner or any separate Contractor and on the structural or weatherproof integrity of the existing building.
 - v. Description of the proposed work:
 1. The scope of cutting, patching or alteration,
 2. The trades who will execute the work,
 3. Products proposed to be used,
 4. The extent of refinishing to be done.
 - vi. Alternatives to cutting and patching.
 - vii. Cost proposal, when applicable.
 - viii. Written permission from any separate Contractor whose work will be affected.
- c. Should conditions of the Work or the schedule indicate a change of products, submit a written request for substitution.
- d. Submit a written notice to the Owner's Representative designating the date and the time the work will be uncovered.

3. Materials

- a. Comply with the Contract Documents for each specific product involved.

4. Execution

- a. Inspection
 - i. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.
 - ii. After uncovering work, inspect the conditions affecting the installation of products or performance of the Work.
 - iii. Report unsatisfactory or questionable conditions to the Owner's Representative in writing; do not proceed with the Work until the Owner's Representative has provided further instructions.

- b. Preparation
 - i. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the work.
 - ii. Provide devices and methods to protect other portions of the Project from damage.
 - iii. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching work.
- c. Performance
 - i. Execute cutting and demolition by methods which will prevent damage to other work and will provide proper surfaces to receive installation of reports.
 - ii. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
 - iii. Restore work which has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents.
 - iv. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
 - v. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes.
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish the entire unit.

01 74 00 CLEANING AND WASTE MANAGEMENT

01 74 13 *PROGRESS CLEANING*

1. 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 material shall be removed continually as the Work progresses and by the end of each day's Work.
 - 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.
 - b. Splattering or spilling of material shall be promptly cleaned up at time of occurrence.
2. Contractor shall provide street sweeping whenever silt from construction site is carried over to adjacent public thoroughfares.
3. Failure to maintain a clean and orderly project site shall necessitate action by the Owner. In the event that the Contractor fails to clean up and maintain the Project in a clean and orderly manner, the Owner may clean the job-site and back-charge the Contractor for costs in accordance with Section 01 33 00: Submittal Procedures.

01 74 16 *CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL*

1. Goals:

- a. UCOP has a goal of achieving a seventy-five percent (75%) diversion rate by June 2012, and zero waste by 2020.
2. Definitions
 - a. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk or similar products.
 - b. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash debris and rubble resulting from construction, remodeling repair and demolition operations. Hazardous materials are not included.
 - c. Diversion from Landfill: To remove, or have removed, from the site for recycling, reuse or salvage material that might otherwise be sent to a landfill. Diversion from Landfill shall not include using the material as alternative daily cover at a landfill site, nor shall it include burning, incinerating, transformation processing or thermally destroying waste.
 - d. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.
 - e. Recycle (recycling): To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. Recycling does not include burning, incinerating, transforming or thermally destroying waste.
 - f. Return: To give back reusable items or unused products to vendors.
 - g. Reuse: To reuse excess of discarded construction material in some manner on the Project site.
 - h. Salvage: To remove waste material from the Project site for resale or reuse.
 - i. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable and reusable material.
 - j. Waste Management Plan: A Project-related plan for the collection, transportation and disposal of waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material going to landfill.
 3. Waste Management Requirements
 - a. All projects shall generate the least amount of waste possible and the process shall ensure the generation of as little waste as possible due to error, inaccurate planning, breakage, mishandling, contamination, or other factors.
 - b. Of the inevitable waste that is generated, as many of the waste materials as feasible, and as stated here, shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.
 - c. A minimum of fifty percent (50%) of total project demolition and construction waste (by weight) shall be diverted from the landfill and projects shall attempt to divert seventy-five percent (75%). Volume reporting is only permitted by exception. The following waste categories are likely candidates to be included in the diversion plan.
 - i. Inerts (and clearing debris, rock and dirt)
 - ii. Concrete
 - iii. Bricks
 - iv. Concrete Masonry Units (CMU)
 - v. Asphalt
 - vi. Metals (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, brass, bronze)
 - vii. Cardboard, packaging
 - viii. Clean dimensional wood
 - ix. Asphalt shingles or roofing

- x. Drywall
 - xi. Carpet and pad
 - xii. Ceiling tiles
 - xiii. Glass
 - xiv. Shrink- or stretch-wrap from furniture/palletized deliveries
 - xv. Greenwaste and organic landscaping materials (brush, chips, trees, stumps)
 - xvi. Reuse items indicated on the Drawings and/or elsewhere in the Specification
- b. All fluorescent lamps, HID lamps and mercury-containing thermostats removed from the site shall be recycled and disposed of through existing campus procedures.

4. Submittals

- a. Waste Management Plan. Before any work begins, the General Contractor shall submit to the OR its Waste Management Plan containing the following:
- i. Estimate of the total proposed jobsite waste to be generated, including types and quantities (by weight).
 - ii. Proposed alternatives to Landfilling: A list of each material proposed to be salvaged, reused, or recycled during the course of the Project, the proposed destination for each material and the projected amount (by weight).
 - iii. Material handling procedures. A description of the means by which any waste materials identified in item (b) above shall be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with the requirements for acceptance by recycling processors to be utilized.
 - iv. List of documentation to be provided in Progress Reports.
 - v. Tiered pricing for waste removal to reflect potential hauling costs as Class 1, Class 2 and Class 3 materials for disposal at landfills.

5. Progress Reports

- a. The Contractor shall submit Waste Management Progress Report(s) at a regular time interval specified by the OR. The Progress Report shall contain the following information:
- i. Project title, name of company completing report, and dates of period covered by the report.
 - ii. Report on the disposal of all jobsite waste, including:
 - 1. Recycled materials. For each material, provide the following:
 - a. Amount (in tons)
 - b. Dates removed from the jobsite
 - c. Receiving Party
 - 2. Reused or salvaged materials. For each material, provide the following:
 - a. Amount (in tons)
 - b. Description of intended or actual use
 - 3. Landfilled materials. Provide the following:
 - a. Amount (in tons)
 - b. Dates removed from the jobsite
 - c. Identity of the transfer station or landfill
 - iii. Include legible copies of on-site logs, weight tickets and receipts. Receipts shall be from recycling and/or disposal site operators who can legally accept the materials for the purpose of reuse, recycling or disposal. If mixed construction and demolition waste is sorted off-site, provide a letter from the processor stating the average percentage of mixed C&D waste they recycle.

The Contractor shall save original documents and provide certified weight tags for the duration of the contract.

- iv. This plan and all reports shall be submitted to the solid waste/recycling manager on campus, for inclusion in campus waste generation and diversion reports.

6. Project Meetings

- a. Waste management plans and implementation shall be discussed at the following meetings:
 - i. Pre-demolition meeting
 - ii. Pre-construction meeting
 - iii. Regular job-site meetings

7. Summary

- a. This section applies to all UCOP projects. The information and activities required in this section shall meet UCOP California Green Building Requirements and USGBC Leadership in Energy and Environmental Design (LEED) for the Construction Waste Management.

01 74 23 FINAL CLEANING

1. The Owner's Representative's Inspection: Give the Owner's Representative a minimum twenty-four (24) hours advance notice of readiness for inspection. Any deficient cleaning operations, as determined by the Owner's Representative, shall be immediately corrected as approved at the Contractor's expense.

- a. Interior surfaces and areas where Work is performed shall be left in vacuum clean condition with all dust, dirt, stains, hand marks, paint spots, plaster droppings, and other blemishes and defects completely removed. To the extent of the Contractor's operations, use or materials, the following requirements apply to all areas where Work is performed:
 - i. Walls: Bare and painted surfaces shall be cleaned and free of dust, lint, streaks, or stains.
 - ii. Hardware and metal surfaces shall be cleaned and polished using non-corrosive and non-abrasive materials.
 - iii. 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.
 - iv. Ceilings shall be clean and free of stains, hand marks, and defacing.
 - v. 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.
 - vi. Surfaces not mentioned shall be cleaned according to the intent of this Section and as required for Owner's Representative's approval.

2. Disposal

- a. Under no circumstances shall debris, rubbish, or waste material be disposed of on the Owner's property by burying or otherwise, and all shall be removed from the Owner's property to a legal disposal area. The Contractor shall bear all dumping charges.

3. Corrective Work

- a. Where existing Work has been dirtied, stained, defaced, or otherwise made defective and cleaning operations are not satisfactory, as determined by the Owner's Representative, the Contractor shall remove the Defective Work and install new Work as requested and approved, at no extra cost or extra time to the Owner.

4. 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.

01 77 00 CLOSEOUT PROCEDURES

01 77 19 CLOSEOUT REQUIREMENTS

Preparation for Acceptance (Prior to Final Inspection):

- 1. Temporary facilities and utilities shall be properly disconnected, removed and disposed of off-site.
- 2. All systems, equipment and devices shall be in full and proper adjustment and operation and properly labeled and identified.
- 3. All materials and finishes shall be neat, clean and unmarred.
- 4. All broken work, including glass, curbs, slabs, paving, landscape sprinklers, etc., shall be replaced or properly repaired.
- 5. Clean-up of the site shall be complete (see 01 74 23).
- 6. All warranties/guarantees, operation and maintenance manuals, as-built drawings and as-built specifications, building equipment and/or systems training, extra stock, record documents and other submittals as specified in the body of the Specifications and Contract Documents, shall be assembled in an orderly manner and delivered to the Owner's Representative. Final payment will be withheld in instances where the Contractor fails to meet closeout requirements and/or submit required documents.

Final Inspection

- 1. Upon receipt of written notice from the Contractor that the Work is ready for final inspection and acceptance, the Owner's Representative and the Contractor shall promptly make a joint inspection of the Work and note deficiencies, if any. When noted deficiencies have been removed and the Owner's Representative finds the Work to be complete in every respect of the Contract Documents, the Owner's Representative shall advise the Owner to file a Notice of Completion.
- 2. The Notice of Completion shall be prepared and recorded in the County Recorder's Office. The date of Final Acceptance in the Notice of Completion shall start the Warranty/Guarantee period.
- 3. The Contractor shall not submit a Payment Application representing the Work of the Project to be one hundred percent (100%) complete prior to the recordation of the Notice of Completion.

01 78 00 CLOSEOUT SUBMITTALS

01 78 36 WARRANTIES/GUARANTEES

1. The General Conditions require all items to be guaranteed for a period of at least one (1) year.
 - a. Guarantees for more than one (1) year required by individual Specification Sections require a separate written Guarantee form by Contractor.
2. Form Of Guarantee
 - a. Use only the Guarantee form in Appendix B: Forms.
3. Submittal Requirements
 - a. Submit all Guarantee forms, along with a Project Directory or List of Contacts, prior to the date of final completion and prior to final application for payment.
 - b. Provide three (3) original wet signed copies of each different Guarantee form.
 - c. The Guarantee form may be reproduced on the letterhead of the Contractor, the Subcontractor(s), or the supplier doing the work or supplying the item guaranteed.
 - d. The Contractor shall not modify any wording or punctuation on the Guarantee form. Contractor shall only complete the blank portions of the Guarantee form.
 - e. The Contractor signs all Guarantee forms.

01 78 39 PROJECT RECORD DOCUMENTS

1. Maintenance Of Documents and Samples
 - a. Store Project As-Built documents and Samples in the 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.
2. As-Built Documents
 - a. The Owner's Representative shall, at no cost, provide the Contractor with a set of Drawings and Specifications of the original Contract Documents, which shall be used for recording the "As Built" condition of all the Work.
 - b. As-Built Drawings: Record the following kinds of information on the As-Built Drawings:
 - i. Locations of Work buried under or outside the building, such as (but not limited to) plumbing and electrical lines and conduits. Provide horizontal and vertical dimensions from fixed points.
 - ii. All electrical work shall be shown diagrammatically. In addition, the actual numbering of each electrical circuit shall be identified clearly
 - iii. 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.
 - iv. Locations of all items, not necessarily concealed, which vary from the locations shown on the Drawings.
 - v. Contractor shall provide, on DVD, color CCTV footage of sanitary sewer lines rehabilitated/installed.
 - c. The following requirements for As-Built Drawings are in addition to those specified elsewhere:
 - i. They shall be done carefully and neatly by a competent drafter, familiar with the Work involved, using methods acceptable to the Owner's Representative.
 1. They shall be kept up to date during the entire progress of the Work and made available to the Owner's Representative at any time.

2. Additional Drawings shall be provided as required to accurately describe changes.
 3. Record all changes in size, location, and other features of installation shown on the Drawings.
 4. The Contractor shall cross-reference all changes approved by the Owner to develop the as-built drawings and as-built specifications from the last conformed set of Contract Documents, noting the type and number of the document authorizing the change (Request for Information, Change and Field Orders, Bulletins, etc.)
 5. Record all locations of underground Work, points of connection, valves, manholes, catch basins, capped stub outs, invert elevations, etc.
 6. Record sufficient information such that the Work concealed in the building can 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. The Owner's Representative's decision on what constitutes sufficient information shall be final.
 7. Provide compact, digital video or Blu-Ray disc (as appropriate for file size) of "As-Built" drawings using AutoCAD 2009 or later, in addition to one (1) full size set of reproducible black-line drawings (collated, but not bound).
- d. Shop Drawings: Provide final Shop Drawings which have been updated to show actual conditions, for Work specified in the individual specifications.
- e. As-Built Specifications and Addenda:
- i. Record the following:
 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Addenda, Change Order, or Field Order, and clarifications and interpretations made by Letter of Instruction.
 3. Provide compact, digital video or Blu-Ray disc (as appropriate for file size) in Microsoft Word or Portable Document formats – Version 2010 or later, and one (1) hard copy in 3-ring view binder(s).

01 81 00 FACILITY PERFORMANCE REQUIREMENTS

01 81 13 SUSTAINABLE DESIGN REQUIREMENTS

1. The UC System has a goal of being carbon neutral - no harmful greenhouse gas related emissions - from building energy use, refrigerant related releases, emergency generator fuel use, and campus fleet use by the year 2025. This over-arching goal shall be considered in the design and building of new and renovated facilities.
2. Additionally, the UC System has sustainability policies and goals related to energy efficiency, renewable energy supply, water, waste, procurement, food, transportation, land-use, and student service learning.

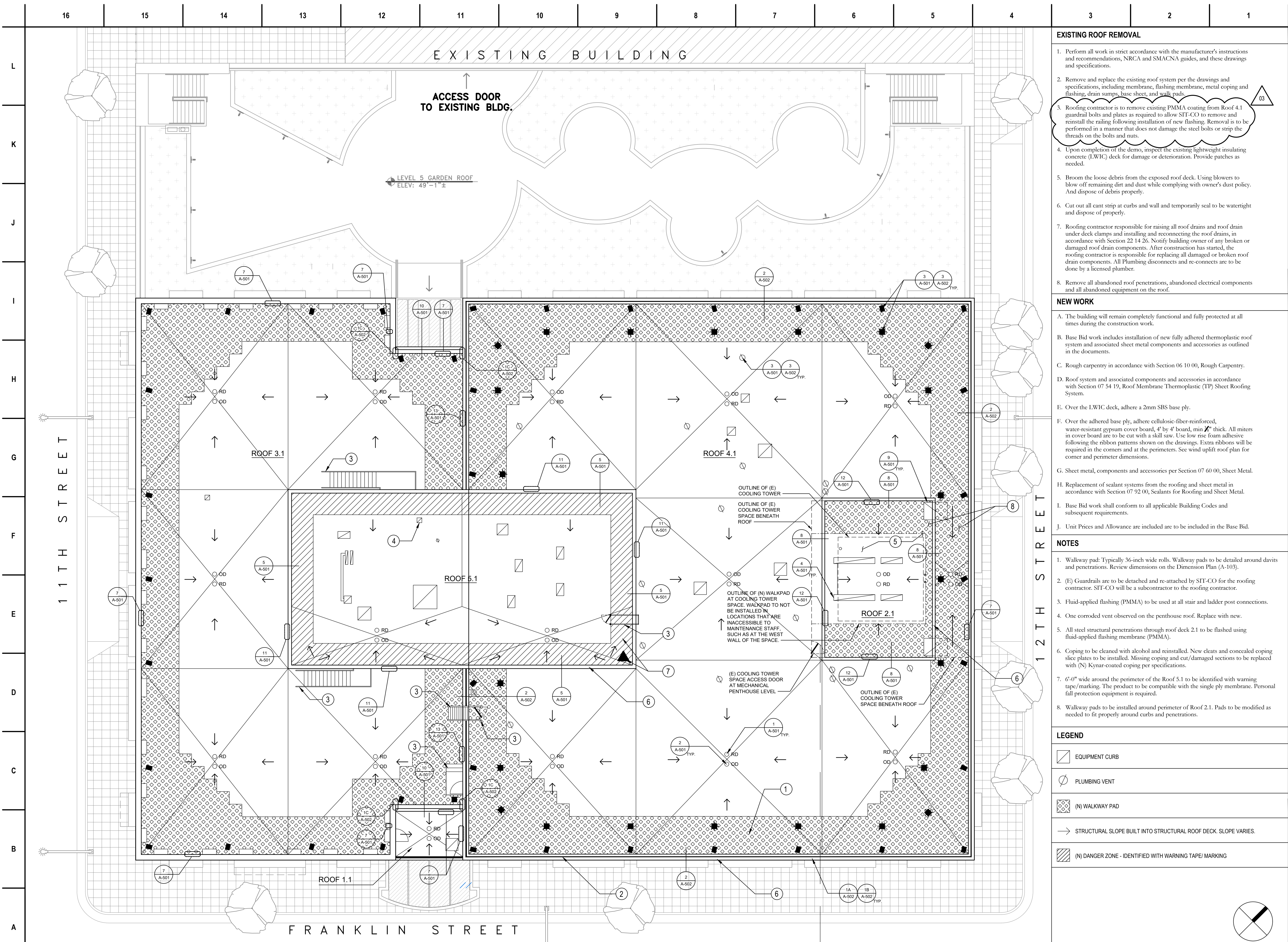
3. In addition, the campus requires full compliance with Title 24 2013, Part 6 in regard to the design, construction, commissioning and acceptance testing, and full compliance with Title 20 in regard to appliances that might be installed or furnished as part of Project scope.
4. To enable incorporation of these into the design and building of new and renovated facilities, a consultation with the Office of Sustainability and Energy (or a sustainable design charrette, depending on the size of the Project) will be required early in the design phase of projects to ensure incorporation of sustainable features.

01 91 00 COMMISSIONING

01 91 13 GENERAL COMMISSIONING REQUIREMENTS

1. Building Commissioning or System(S) Commissioning (Prior To Final Acceptance)
 - a. Prior to final inspection, the Contractor shall schedule, through the Owner's Representative, training sessions, agendas, programs, manuals and documentation as required to educate and familiarize maintenance and operations staff with equipment and system's operations. At minimum, one (1) training session per system and major piece of equipment is required. Final inspection shall not be scheduled until training sessions for all building systems and major pieces of equipment have been satisfactorily conducted. Submit in writing to the Owner a minimum fourteen (14) days' advance notice of each training. Notice shall include the following: proposed training date, training start time, approximate duration, location, company name of Subcontractor and/or Manufacturer, and a detailed agenda that outlines the operation and maintenance information to be reviewed and demonstrated during the training session. To schedule training sessions, contact the University Representative.

END OF GENERAL REQUIREMENTS



EXISTING ROOF REMOVAL

1. Perform all work in strict accordance with the manufacturer's instructions and recommendations, NRCA and SMACNA guides, and these drawings and specifications.
2. Remove and replace the existing roof system per the drawings and specifications, including membrane, flashing membrane, metal coping and flashing, drain sumps, base sheet, and walk pad.
3. Roofing contractor is to remove existing PMMA coating from Roof 4.1 guardrail bolts and plates as required to allow SFT-CO to remove and reinstall the railing following installation of new flashing. Removal is to be performed in a manner that does not damage the steel bolts or strip the threads on the bolts and nuts.
4. Upon completion of the demo, inspect the existing lightweight insulating concrete (LWIC) deck for damage or deterioration. Provide patches as needed.
5. Broom the loose debris from the exposed roof deck. Using blowers to blow off remaining dirt and dust while complying with owner's dust policy. And dispose of debris properly.
6. Cut out all cant strip at curbs and wall and temporarily seal to be watertight and dispose of property.
7. Roofing contractor responsible for raising all roof drains and roof drain under deck clamps and installing and reconnecting the roof drains, in accordance with Section 22 14 26. Notify building owner of any broken or damaged roof drain components. After construction has started, the roofing contractor is responsible for replacing all damaged or broken roof drain components. All Plumbing disconnects and re-connects are to be done by a licensed plumber.
8. Remove all abandoned roof penetrations, abandoned electrical components and all abandoned equipment on the roof.

NEW WORK

- A. The building will remain completely functional and fully protected at all times during the construction work.
- B. Base Bid work includes installation of new fully adhered thermoplastic roof system and associated sheet metal components and accessories as outlined in the documents.
- C. Rough carpentry in accordance with Section 06 10 00, Rough Carpentry.
- D. Roof system and associated components and accessories in accordance with Section 07 54 19, Roof Membrane Thermoplastic (TP) Sheet Roofing System.
- E. Over the LWIC deck, adhere a 2mm SBS base ply.
- F. Over the adhered base ply, adhere cellulose-fiber-reinforced, water-resistant gypsum cover board, 4' by 4' board, min 1/2" thick. All miters in cover board are to be cut with a skill saw. Use low rise foam adhesive following the ribbon patterns shown on the drawings. Extra ribbons will be required in the corners and at the perimeters. See wind uplift roof plan for corner and perimeter dimensions.
- G. Sheet metal, components and accessories per Section 07 60 00, Sheet Metal.
- H. Replacement of sealant systems from the roofing and sheet metal in accordance with Section 07 92 00, Sealants for Roofing and Sheet Metal.
- I. Base Bid work shall conform to all applicable Building Codes and subsequent requirements.
- J. Unit Prices and Allowance are included are to be included in the Base Bid.

NOTES

1. Walkway pad: Typically 36-inch wide rolls. Walkway pads to be detailed around davits and penetrations. Review dimensions on the Dimension Plan (A-103).
2. (E) Guardrails are to be detached and re-attached by SFT-CO for the roofing contractor. SFT-CO will be a subcontractor to the roofing contractor.
3. Fluid-applied flashing (PMMA) to be used at all stair and ladder post connections.
4. One corroded vent observed on the penthouse roof. Replace with new.
5. All steel structural penetrations through roof deck 2.1 to be flashed using fluid-applied flashing membrane (PMMA).
6. Coping to be cleaned with alcohol and reinstalled. New cleats and concealed coping slice plates to be installed. Missing coping and cut/damaged sections to be replaced with (N) Kymar-coated coping per specifications.
7. 6'-0" wide around the perimeter of the Roof 5.1 to be identified with warning tape/markings. The product to be compatible with the single ply membrane. Personal fall protection equipment is required.
8. Walkway pads to be installed around perimeter of Roof 2.1. Pads to be modified as needed to fit properly around curbs and penetrations.

LEGEND

- EQUIPMENT CURB
- PLUMBING VENT
- (N) WALKWAY PAD
- STRUCTURAL SLOPE BUILT INTO STRUCTURAL ROOF DECK. SLOPE VARIES.
- (N) DANGER ZONE - IDENTIFIED WITH WARNING TAPE/ MARKING

PROPOSED ROOF PLAN A4
3/32" = 1'-0"

PROJECT TEAM

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NO.	DATE	ISSUE DESCRIPTION
01	02/15/2024	90% CD PERMIT SET
02	04/16/2024	100% CD PERMIT SET - ISSUE FOR BID
03	06/07/2024	BID ADDENDUM 01

1111 FRANKLIN STREET REPLACEMENT
1111 FRANKLIN STREET
OAKLAND, CALIFORNIA 94607

ARCHITECT OF RECORD

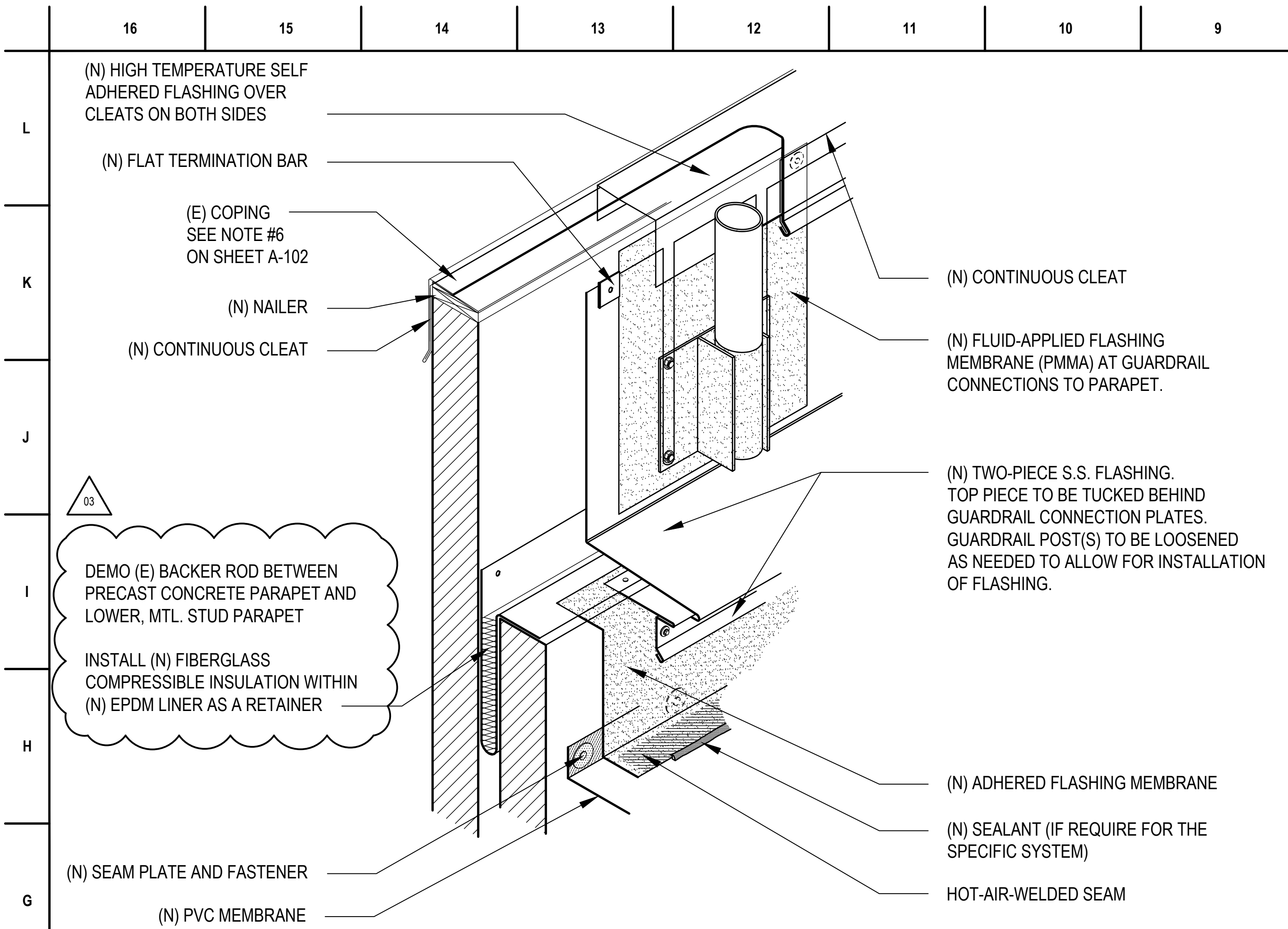
1299 NEWELL HILL PLACE, SUITE 100
WALNUT CREEK, CA 94596

STAMP

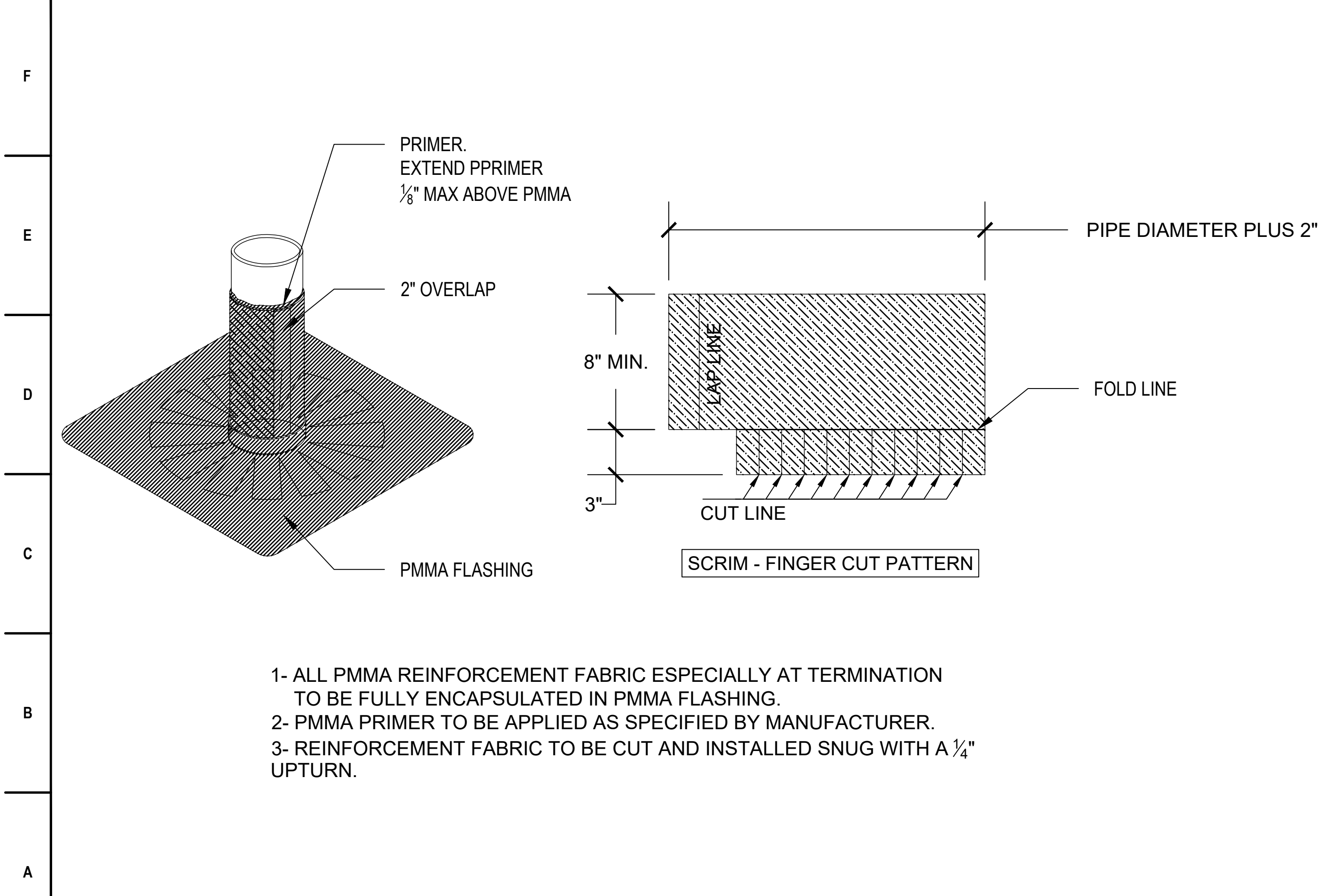
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ROOF PLAN

DRAWING NO.
A-102

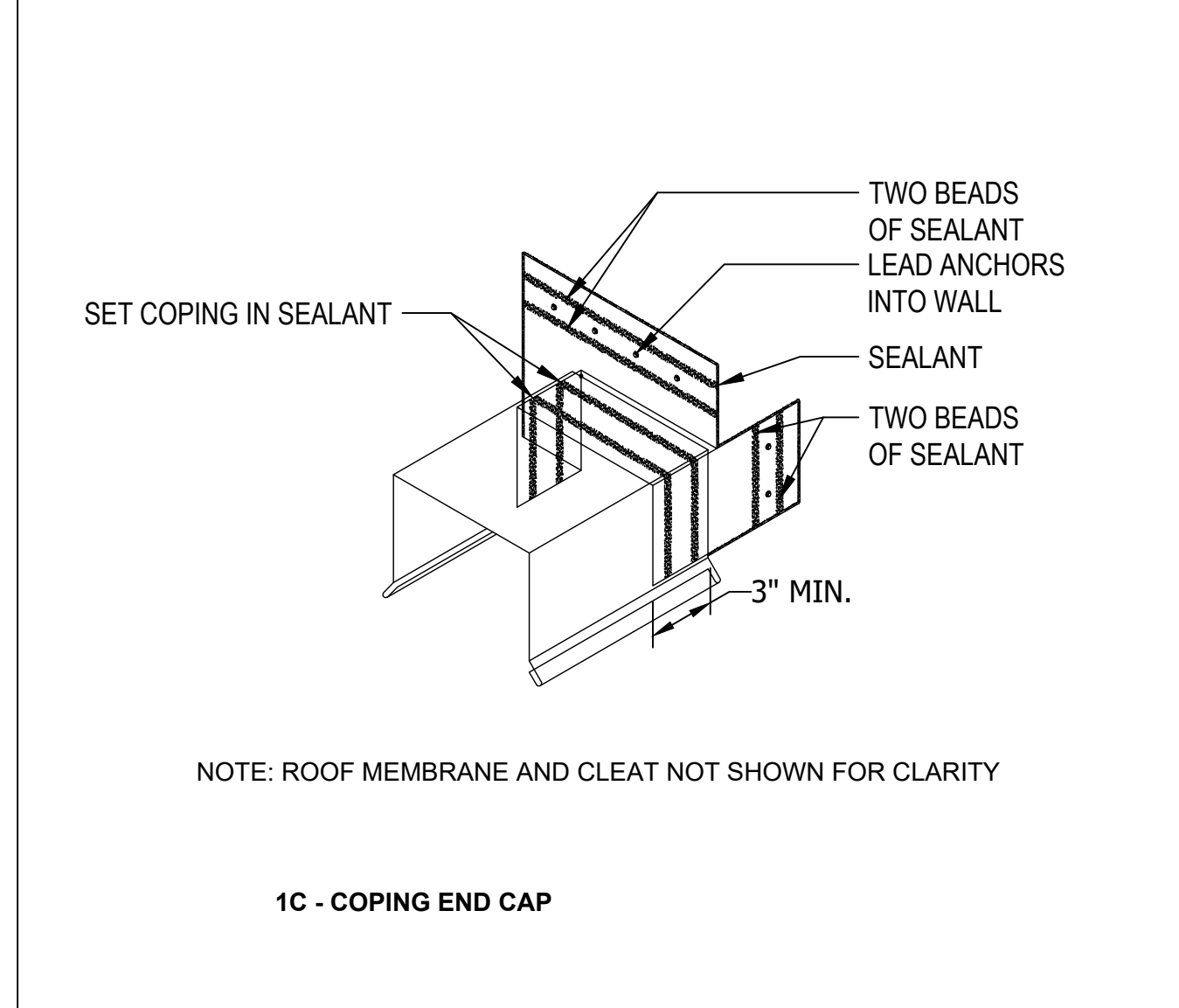
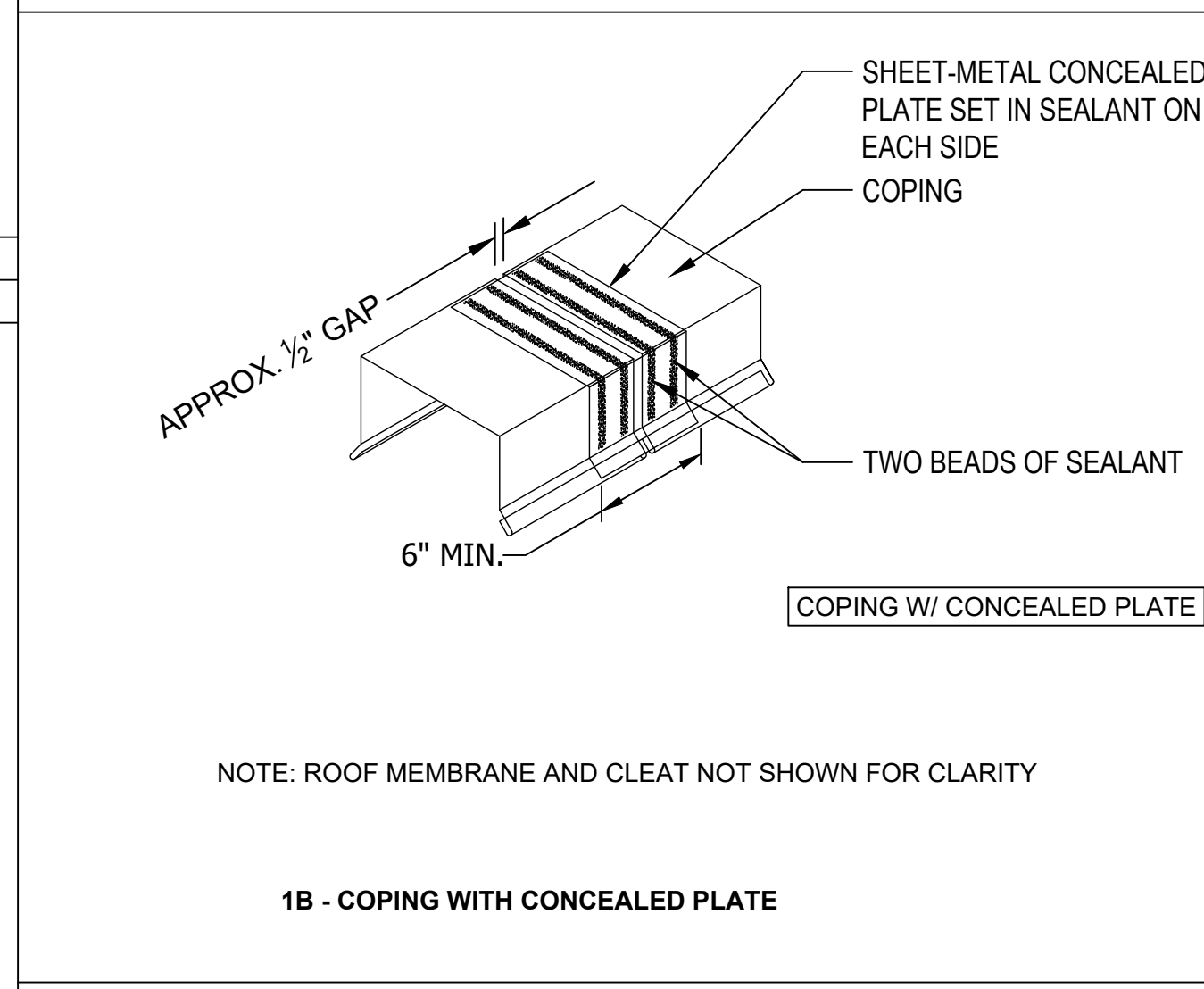
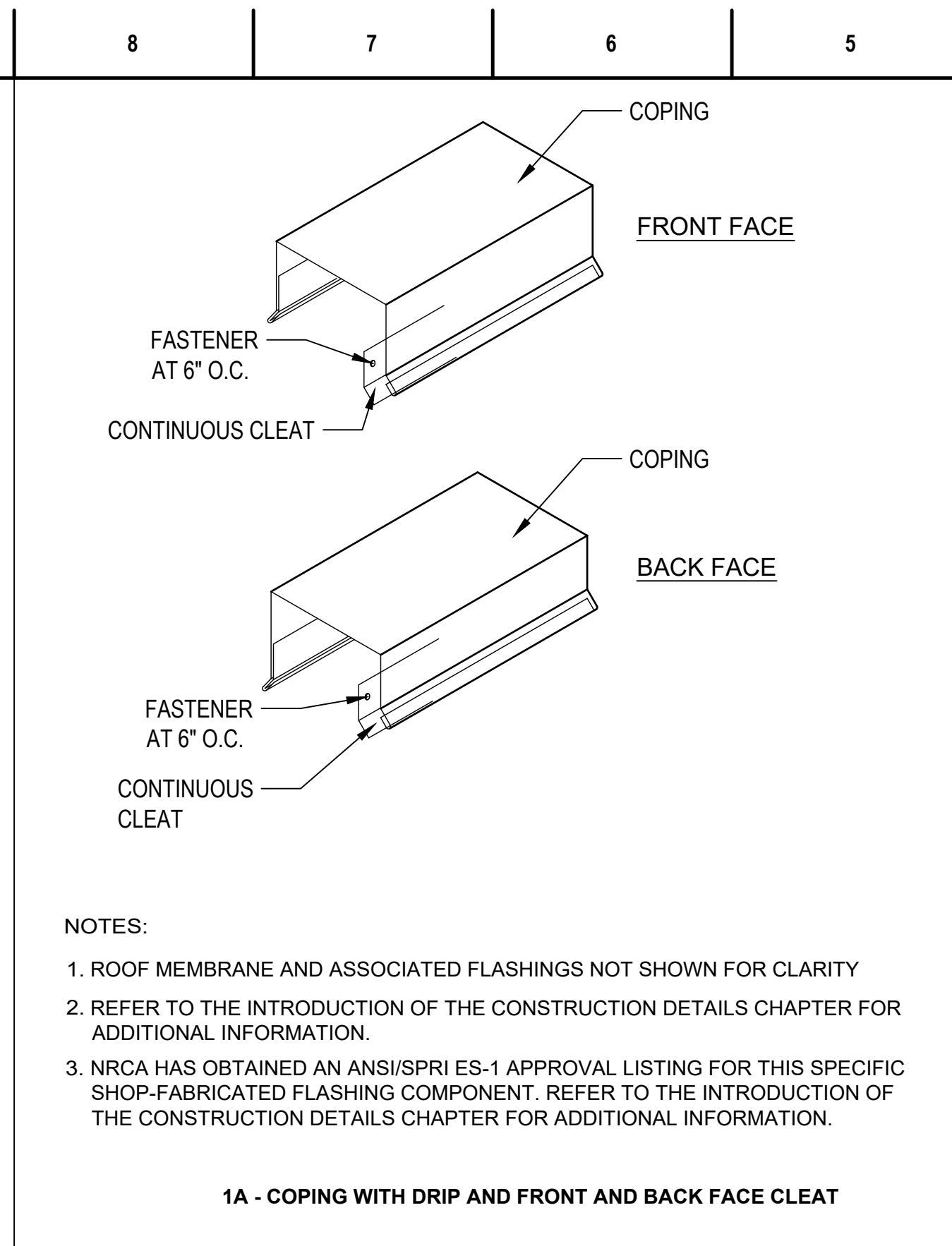
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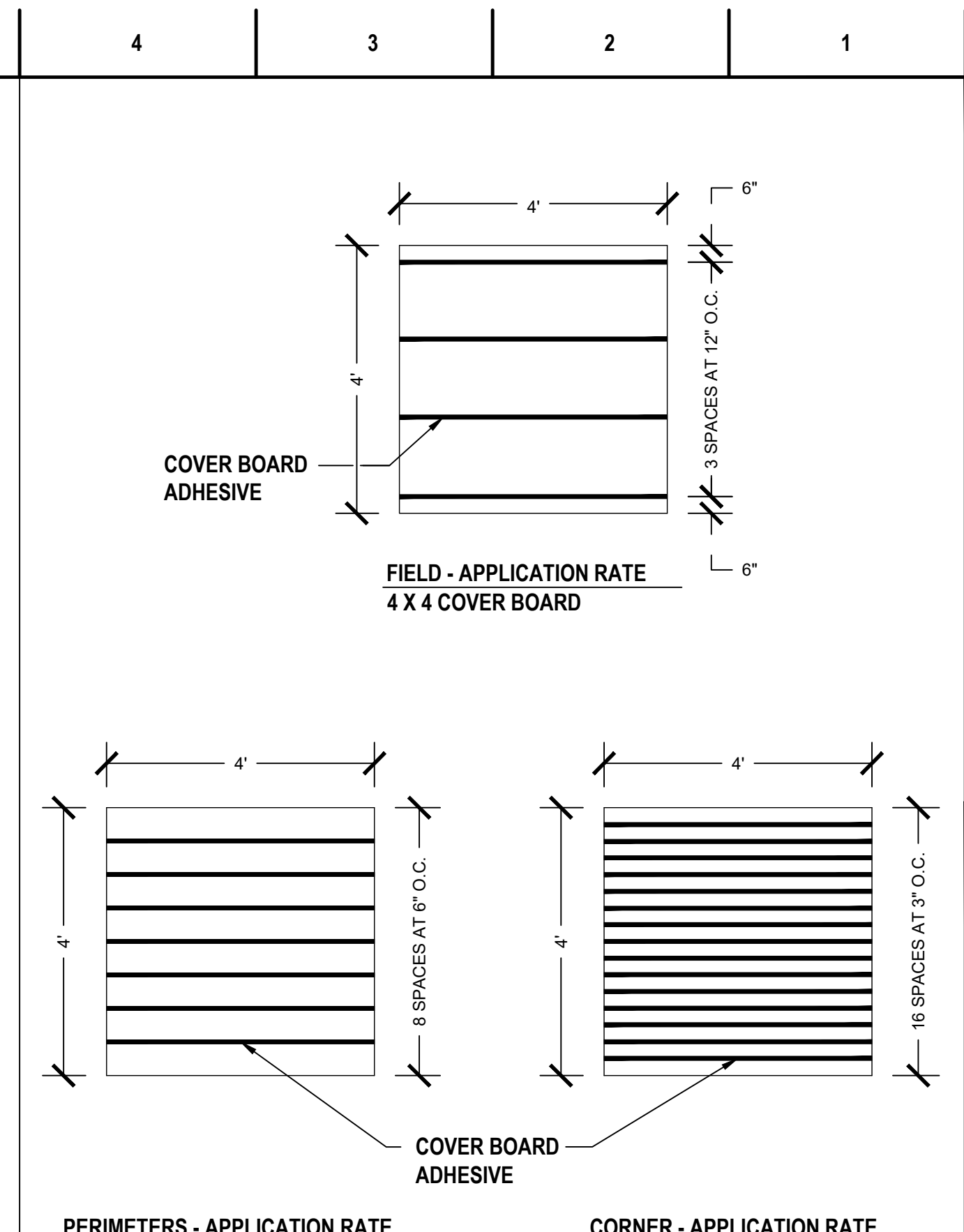
PARAPET WALL EXPANSION JOINT 2 NTS



FLUID-APPLIED FLASHING MEMBRANE DETAIL 3 NTS



COPING DETAILS 1 NTS



COVER BOARD ADHESIVE RIBBON PATTERNS FOR COVER BOARD ADHESION 12 NTS

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02	04/16/2024	100% CD PERMIT SET - ISSUE FOR BID
03	06/07/2024	BID ADDENDUM 01

1111 FRANKLIN ROOF REPLACEMENT
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CONSULTANT

STAMP

DRAWING TITLE
DETAILS

DRAWING NO.
A-502

ECS PROJECT NO: 81:1028