Project Name: UNIVERSITY OF CALIFORNIA, MERCED
SCIENCE AND ENGINEERING BUILDING 2
Project No.: 900020

ADDENDUM NO. 4

to the **CONTRACT**

DOCUMENTS December 12,

2011

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

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

II. CLARIFICATIONS

A. PRE-BID QUESTIONS – Questions received from bidders and responses are as follows:

1. Question: How much savings will the UCIP give me as a Prime Trade Contractor?

Answer: The University pays all premiums for the UCIP provided coverage for enrolled PTC's and subcontractors, including Workers Compensation, Employers Liability, General Liability, and Excess/Umbrella coverage so an enrolled contractor has the benefit of essentially free insurance coverage for these lines. It is important to remove all costs for such coverage from your bid, as the UCIP will provide this coverage for enrolled contractors' work on-site. A typical reduction in contract value would be around 3% however this may vary depending on the costs of your usual coverage. You will want to be sure insurance costs for your enrolled lower-tiered subcontractors are also removed. There is a potential deductible responsibility which could be passed on to contractors that generate General Liability claims, but it is minimal compared to typical deductibles within the construction industry.

2. Question: Can a Bidder attach a clarification to the Bid Form?

Answer: Bidder shall make no Stipulation on the Bid Form nor qualify the bid in any manner.

3. Question: Clarify corner guard locations and specification section.

Answer: Corner guards to be installed at locations indentified in the general floor plans with the designation CG-1. Corner guards are specified in section 09250- 2.5 B. 4. They are provided by Drywall PTC.

4. Question: Clarify the location of the glass display case. What PTC shall provide the display case? Where are the elevations of the glass display case located? Please provide the specification section number for the glass display case.

Answer: The scope of work for spec section 10125 - Display Case has been deleted from Trade Package 10 and added to Trade Package 14. The only glass display case in the project is located in scholarly activity room 101. The elevation of the glass display case is shown

on 69/A8.1.1. Trade package 14 shall provide all glass, door hardware, aluminum trim and supports for the glass display case. The steel at the display case is provided by the Misc. Metal PTC.

5. Question: Please clarify who is to furnish and install the L7" x 4" x 3/8" steel angle and the smaller unidentified steel angles that support the Glass Display doors as shown in Details 32/A9.8.1 and 44/9.8.2.

   Answer: The steel angle is provided by the Misc. Metal PTV (Trade Package 9). The unidentified metal shape, fastener and spacer material attached to the glass door is designed and provided by the curtain wall PTC (Trade Package 14).

6. Question: Who is responsible for the custom pen trays on the glass surfaced marker boards? Shown on A2.0B-1 Keynote 2.22. Provide dimensions and details for the glass marker boards. Do these marker boards have custom pen trays?

   Answer: Provide 5'-0" wide by 4'-0" high glass marker boards per specification 06402- 2.1. Reference elevation 22/A8.3.1 sim. and detail 8/9.5.2. Custom pen tray required only at locations show on drawings. Custom pen tray not required for these two glass marker boards.
   Finish for the aluminum custom marker tray: Clear anodized aluminum AAMA 611, AA-M12C22A31, Class II, o.010 mm or thicker. Marker tray to be build of ¼' aluminum plate. Welded seams
   The Glass marker boards, Custom Pen tray and the aluminum trim around the glass marker boards are all provided by the Woodwork PTC (Trade Package 10).

7. Question: RE: A2.2A-1: Are there elevations for hallway 230, 0C10, OC9? Is there tack board / glass marker boards at these locations?

   Answer: There are no tack board / glass marker boards at hallways 230, 0C10 and OC9.

8. Question: RE: A9.5.2 - What trade package is the 5/8" painted plywood and the 5/8" regular plywood for the glass marker boards and the tackboard in?

   Answer: The plywood is provided by the Specialty PTC (trade package 26) per specification 06105.

9. Question: Please clarify who is to furnish and install the aluminum angle trim shown in Details 5, 8, 19, 21, 24 & 56/A9.5.2, used at both the glass marker boards and the linoleum tack board surface.

   Answer: These are provided by the Architectural woodwork PTC (Trade Package 10) per specification 06402 2.1. Finish: Clear anodized aluminum, AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

10. Question: Who is responsible for wiring and final hook-up of the projection screens?

    Answer: Trade Package 26 - Specialties shall provide all work in Specification 11132, including low voltage wiring and connections. The Electrical PTC shall provide the final line voltage connections.

11. Question: RE: A8.5.1: Please identify shelf material and what clarify trade package provides the Janitor Shelving?

    Answer: Trade Package 26 - Specialties shall provide Bobrick Washroom Shelf with Mop & Broom Holders & Hooks. Shelf is 18 gauge stainless steel. Bobrick Inc's B 239.

12. Question: RE: A9.5.2 #40 & 56: What trade package does the 1/4" Aluminum flat plate?

    Answer: Trade Package 14 - Curtain wall PTC shall provide this Aluminum Plate.

13. Question: Are all fire extinguishers owner supplied?

Answer: Yes, Fire extinguishers are furnished by the Owner. Specification 10523 is included for coordination and for Fire Marshal (code) requirements.

14. Question: RE: A8.3.2 note#8.65: What PTC provides and what specification does the AV Equipment Cabinet belong with?

Answer: This AV cabinet is provided per section 06402 and provided by the Architectural Woodwork PTC (Trade Package #10)

15. Question: Clarify the thickness of the countertops in this project.

Answer: Solid surface countertops to be 1/2" as shown in the specifications. Plastic laminate countertops to be 3/4".

16. Question: What trade package is responsible for finishing the woodwork?

Answer: Trade Package 10 - Architectural Woodwork shall provide the Finish for woodwork furnished in this trade package; unless otherwise noted.

17. Question: (NAME DELETED) is requesting a waiver to UCIP requirement Part I.A. that states that the subcontractor must have had no serious and willful violation during the past five years.

Answer: Bidders are advised to submit the bid with the completed Bid Form and an attached letter stating the violation/incident. The University will evaluate and make determination after the bid opening.

18. Question: Scope of Work: 01011.22 - 2.0.2 states: “For Bid purposes, assume that all floors exceed manufacturer’s recommendations and that vapor retarder is required. Contract value will be adjusted for actual requirements.” How is the contract value to be adjusted exactly?

Answer: A deductive change order will be issued for the deleted scope of work.

19. Question: I wanted to see if the license requirements can be broadened. I hold an A, B, C20 and C43 and I want to bid Doors, frames and hardware and Concrete.

Answer: A California Contractors licenses may perform the following work:
Trade package 4 = A, B, C-8;
Trade package 19 = B, C-28.

20. Question: Bid Package 31 Electrical requires a C7 and C10 license. A C10 contractor is allowed to perform any work that a C7 contractor is allowed to perform. Please clarify that only a C10 license is sufficient to submit a bid for Bid Package 31 Electrical.

Answer: A California C-10 contractor's license is acceptable to bid and perform this work.

21. Question: RE: S2.01B. The elevation changes for the top and bottom of footing is unclear at Line A.1.5 between Lines 10.9 and 12, there are more callouts for changes in elevation then there are step lines.

Answer: The Bottom of Footing Elevation specified at Grid 11.2 should read 230'-10" BOF, not 232'-3" BOF. See detail 1-S3.05 for elevation.

22. Question: RE: Details 11,27,32,68 and 72/ A9.4.10: What trade package provides the 3/16 x 12" continuous plate per these details?

Answer: Trade Package 9 - Miscellaneous Steel and Stairs shall provide the metal plate.

23. Question: RE: details 3 & 4 / S6.04: Tapered HSS is shown shop welded to the column but can be considered as framing for the stairs. Should these tapered beams be part of the Structural package or the Misc. steel package?

Answer: Trade Package 3 - Structural Steel shall provide the Tapered HSS beams.

24. Question: Clarify the intent of Bid Alternates 6 and 11

Answer: Bid Alternates #6 and 11 removes the card readers and request-to-exit sensors on doors identified under D-ALT6-SY0.2 and D-ALT11-SY0.2. Contractor will still provide conduit, junction boxes and cabling for the doors. Footing Elevation specified at Grid 11.2 should read 230'-10" BOF, not 232'-3" BOF. See detail 1-S3.05 for elevation. The University can select alternate 6 or alternate 11; it cannot choose both.

25. Question: Please clarify if the Door Hardware at the identified openings associated with Alternates 6 and 11 should be revised to Non-Electrified (i.e. Hinges, Locks, Panics) to coincide with the removal of Card Reader Access?

Answer: If alternates 6 or 11 are accepted, the electrified door hardware will remain. The identified doors shall be set-up as fail secured doors that can be opened with a key from the non-protected side and allow free egress at all times on the protected side.

26. Question: For TP #19 (DFH), it appears that Section 08412 (Interior Aluminum Framed Entrances) has been Excluded and Included in TP #14. These Types of Door & Window Frames are Typically Furnished under the DFH Bid Package as these will have Wood Doors & Door Hardware installed into them which are provided by TP #19 Having the entire opening furnished by the same PTC will ensure that the Factory Hardware Preps & Installation Requirements for these openings are very closely coordinated by (1) supplier to minimize the opportunity for errors. Please clarify?

Answer: Interior curtain wall specification 08412 is provided by the Curtain Wall PTC (Trade Package 14). Therefore all aluminum door frames are provided by trade package 14. Several Trade packages are required to closely coordinate with each other for different work and products related to doors, frames and hardware. It is recommended to review the scope of work for Curtain wall (PTC 14), Drywall (PTC 16) and Doors (PTC 19).

27. Question: Section 11601 specifies Fume Extractors (snorkels). At Page Lf2.2B Rooms 230D, 230E and 230H I think these exhaust may be mislabeled. Can you please confirm the drawings are correct or advise on any changes required?

Answer: The exhaust labels are show correctly on the "LF" drawings.

28. Question: Specification 08710. Provide threshold information for hardware groups that include a threshold.

Answer: Use 5-1/2-inch half saddle threshold. Acceptable products and manufacturers: Pemko 158A; National Guard Products 653; or approved equal.

29. Question: RE: Specification 11602 and to LF1.3: All tables on casework legend indicate Wood or Metal construction. Please identify material required for MTxxC table with casters.

Answer: The MTxxC tables are wood.

30. Question: Please confirm that the $200,000 allowance listed on the Electrical bid form is the same $200,000 for the Access Control and Monitoring system listed in the Scope of Work Package .31 item .16.

Answer: Yes these are the same Allowance.

31. Question: Bid Scope 01011.14-2.0.26 & .27 shows a $50,000 allowance for temporary weather enclosure and $15,000 for glass breakage by other trades. Specification 1210-1.2.D.1 shows a $65,000 allowance for modifications and temporary weather enclosure. Which is correct?

Answer: Both are correct. $50,000 + $15,000 = $65,000 as shown on the bid form.

32. Question: Clarify spacing for the 1.2” stiff plate under the 1.2” bent plate shown on detail 9/S5.08

Answer: The 1/2" stiffener plate under the 1/2" bent plate edge form occurs at every W27 connection denoted on along Grid A of levels 2 and 3, see S2.21A and S2.31A. Detail 9-S5.08 callout is typical along Grid A.

33. Question: Specification section 05120-2.4 F: The Rodan tie system by Dorma, to include rods, connectors and couplers, has been discontinued by the manufacturer. Please provide alternate system.

    Answer: Provide Macalloy 460 Rod System by Decon, to include 1 1/4" diameter rods, connectors, and couplers. www.deconusa.com.

34. Question: Please clarify whether the PV support structure belongs in the Structural Steel PTC or Miscellaneous Metal PTC.

    Answer: Specification Section 01011.03, Article 2.1, requires the Structural Steel PTC to provide all rooftop miscellaneous steel, including PV supports at the roof. The PV support structures to be included by the Structural Steel PTC are those shown on Structural Drawing S2.51A. The PV support structure shown on Detail 2 and 3/S6.10 is the responsibility of the Miscellaneous Steel PTC.

35. Question: North Canopy support structure per sheet S6.10. S6.11, S6.12 and S6.13 and S6.15 seems to be of same construction as the PV supports. Please clarify which PTC has this scope.

    Answer: Per Specification Section 01011.09, Article 2.11, the Miscellaneous Steel PTC is responsible for all AESS steel, including the north canopy structure.

36. Question: Please confirm that the elevator car is furnished for construction use and the elevator contractor is responsible for its operation, requiring a two man crew (operator and supervisor) for 8 months just to run one car.

    Answer: No, this statement is not correct. It is correct that the bid is based on furnishing one elevator for 8 months of construction use. Trade package 27 - Elevators; shall provide a "TEMPORARY PERMIT TO OPERATE AN ELEVATOR" per Sections 7301 - 7315 of the labor code. Trade Package 11 - General Conditions; shall provide one elevator operator.

37. Question: Bid Scope 01011.14- 3.0.44 states "Furnish and install all fire-safing, acoustical sealants and sleeves related to their scope of work." Please verify that this does not include the fire resistive joint system at the curtain wall/floor line intersections.

    Answer: Trade Package 13 – Building Insulation shall provide the fire resistive joint system at the curtain wall intersection per 01011.13-2.02.

38. Question: Bid Scope 01011.14-2.0.29 calls for the Glazing PTC to provide the design of the mock up panel footings and bracing. Does this include the Portland Cement mock up shown in Elevation 38/A5.3.61?

    Answer: Yes, paragraph 01011.14-2.29 includes the design the of mock-up foundation shown on A.3.61 details. All trade packages must coordinate to provide the resulting loads for the mock-up foundation and brace design.

39. Question: Bid Scope 01011.14-2.0.29 calls for the Glazing PTC to include demolition and removal from the site of all mock up panels. Does this include the demolition of the mock up foundation?

    Answer: Yes, paragraph 01011.14-2.29 includes the demolition the of mock-up foundation.

40. Question: Bid Scope 01011.14-2.0.29- has the concrete PTC provide up to 10 CY of concrete for the mock up footings. Does this include the footings for both Mock ups 1 & 2 and the Portland Cement mock up shown in Elevation 38/A5.3.61?

    Answer: Details on A3.61 are not a Portland cement mock-up. It is the concrete foundation for the exterior wall mock-up. The 10 CY, is the concrete that may be used for the mock-up foundation shown on all details on A.3.61.

41. Question:Please provide an additional acceptable manufacturer for the Aluminum Composite Panel system specified in section 07415.

Answer: Elward System Corporation is a second acceptable manufacturer.

42. Question: Please confirm that system UNA-Clad 1000UC specified in Section 07415 do not require interlocking perimeter extrusions.

Answer: Interlocking perimeter extrusions are not required. UNA-CLD 1000UC panels are attached with angle clips.

43. Question: Please confirm that system UNA-Clad 1000UC specified in Section 07415 is a system with caulked flush joints with no open reveals..

Answer: Confirmed, caulked joints are acceptable.

44. Question: Please verify that Door # 101A is Type AL-3

Answer: Yes this is an automatic sliding door AL-3. Please see sheet A5.3.10 for details and specification section 08460.

45. Question: Please confirm who is responsible for the design and installation of any required structural support system to meet code required loads for the curtain wall railing shown on detail 14/A5.3.6 .

Answer: The guardrail is part of the curtain wall system, and shall be provided with reinforcements to mullion as required to meet guardrail code load requirements. Curtain wall PTC (Trade Package 14) to provide design and engineering calculations for the curtain wall railing.

46. Question: The Building Site Use Plan shows the temporary man lift to be located at the Bridge near Grid C. Can the man lift be located near the center of the Bridge so that the curtainwall just East of Grid 10.5 can be installed in sequence or will this curtainwall also be considered part of the leave out bay?

Answer: The intent is to leave out the curtain wall at the bridge until after the man/material hoist is removed. The exact location of the hoist, exterior skin sequence and protection of the skin near the hoist will be coordinated by all of the PTC's with work in this area, and shall be included in the bid.

47. Question: Specification 08830-1.1.A.1 calls for annealed monolithic glass mirrors. 08830-2.3.A & B state that the mirrors are to be fabricated before tempering. Are the mirrors tempered or annealed?

Answer: Mirrors to be annealed.

48. Question: Specification 08830-1.5.B states that the mirror mastic must be tested for compatibility with the mirror backing film. Backing film is not specified for these mirrors. Is backing film required?

Answer: Protective backing film is not required. Mirror mastic shall be tested for compatibility with mirror backing paint.

49. Question: Are the bathroom mirrors designated MI-1 on Pg. A8.2.1 considered to be unframed mirrors and part of Trade Package 14 or framed mirrors under Specification 10801 and Trade Package 26?

Answer: They are provided by Trade Package 14, per scope of work paragraph 01011.14-2.10.

50. Question: The Bid Form requires for (DELETED) requires that project(s) be listed that are of similar size, scope and complexity. Is it required that the Bidder was a Prime Trade Contractor or is it acceptable that the Bidder was a subcontractor on the listed projects?

Answer: The "Contract Value" is the contract amount completed by the bidder. The type of contract (Subcontract, PTC, or other) is not a consideration.

51. Question: Specification Section 08911-1.7.F.1 requires NFRC certified glazed curtain walls with an attached label. Kawneer North America, the Basis of Design manufacturer, does not provide NFRC labels. They will only provide Kawneer Standard 11.0 Certificates of Compliance for NFRC 100-200. Is this acceptable?

    Answer: Certification to NFRC 100-200 is acceptable.

52. Question: Specification Section 08911-2.3.B.1 calls for AAMA labels to be attached to each window. Kawneer North America, the Basis of Design manufacturer, does not provide AAMA labels, although their windows are tested to AAMA standards. Is this acceptable?

    Answer: In lieu of AAMA Ceritificaiton labels, provide manufacturer's written certification that product is complies with and is tested per AAMA/WDMA/CSA 101/I.S.2/A440 for the performance and grade specified.

53. Question: 08911-2.2.B & C show that Curtainwall Types CWS-2 and CWS-3 are Kawneer Clearwall Series: 7 3/8" x 2 ½". Kawneer has an alternate version of this system that results in an overall system depth of 6 5/8" in lieu of the 7 3/8" depth. Is the use of the alternate with the 6 5/8" depth acceptable?

    Answer: As long as the subcontractor can demonstrate through engineering calculations that the 6-5/8" mullion will meet the specification's structural requirements, we can look at this substitution request. Please note that the outside face of curtain wall dimension must remain as shown in the contract documents. This will result in costs from other PTC's that must be evaluated and resolved during the substitution request review period.

54. Question: 08970-1.3.A & B and 08971-1.3.A & B state that the Structural Glass Contractor must provide in-house design, engineering and installation for a complete structural glass wall system as a single entity. The Basis of Design manufacturer, W & W Glass, does not install on the West Coast. Can the Trade Package 14 Bidder, as an installer licensed by W & W and working under the supervision of a W & W foreman, use their own forces to install this material?

    Answer: Yes, If this method is both acceptable to Pilkington and W&W glass, than this would not be an issue.

55. Question: Specification Section 08970-2.2.A.1.a.6 calls for the Inner Pane to have V1086 Simulated Sandblast Viraspan at #3. This is a Viracon product. W & W is a Pilkington supplier and can't provide Viracon products. They can supply a full acid etch simulated sandblast by Pilkington. Is this acceptable?

    Answer: Yes this is acceptable. We will need to review samples during the submittal period before final approval.

56. Question: Specification Section 08970-2.2.A.2.a.2 calls for Viracon Arctic Snow No. 216500. This is a Viracon product that can't be supplied by W & W. Is an equal Pilkington product acceptable?

    Answer: Yes this is acceptable. We will need to review samples during the submittal period before final approval.

57. Question: Specification Section 08970-2.2.C.4 states that the spring plates shall be designed to the University Representative's specification. Is this specification available? If this specification is not available pre-bid, W & W will only provide standard Pilkington Planar design spring plates.

    Answer: Pilkington Planar Type 901 L is the basis of design. No other specification will be provided.

58. Question: Please specify the wood veneer species, and veneer cut for the stained wood doors specified in section 08311.

Answer: Face veneer white maple. Face panel grade, conform to HPVA "A" or better. Quarter slice cut. Veneer matching, split match. Assembly of spliced veneers, center balance match. Minimum thickness of wood veneer 1/50 inch.

59. Question: 02250- 1.4A prohibits any shoring which employs vibration to install. Can the shoring contractor use a small high frequency hydraulic vibro unit to safely install the soldier piles and also remove them, monitoring the vibration in the ground during a test program? This type of equipment has been used successfully for shoring and induces insignificant vibration in the ground.

Answer: Vibration must be kept to a minimum due to sensitive scientific equipment located in the existing SE Building next to the project site. If the high frequency vibro unit creates insignificant in ground vibration as described, the University does not take exception to its use.

60. Question: Where is the Area of Refuge system specified?

Answer: Please refer to the T drawing series and specification section 16710.

61. Question: Specification section 09671 calls for Valspar Versacolor X-5 flooring. This product has been discontinued. Please provide an alternate product.

Answer: Basis of Design product is Versacolor, manufactured by Sika Corporation who purchased Valspar Flooring Division. Other acceptable products are TerraColor by Dex-O-Tex, and Sonblend HDI by Stonhard. The system is a 3/16-inch thick trowel-applied decorative monolithic high solids epoxy flooring with primer and high solids clear epoxy topcoat.

62. Question: D-ALT10-LF2.0A & D-ALT10-LF2.0B appear to be part of Alternate #10, but the only changes are added cylinder restraints along grid line “A” which read “Provide if Alternate #7 is selected”. Please confirm the additional cylinder restraints are part of Alt.10 and not Alt. 7.

Answer: This drawing was corrected in Addendum #3

63. Question:Details 1/LF4.0 shows corrosive cabinet venting into the fume hood work surface, but detail 4/LF4.1 shows it venting along the side of the fume hood superstructure. Section 11602 also specifies the venting through the fume hood side wall. Please confirm venting is per detail 4/LF4.1.

Answer: Corrosive cabinets to be vented per detail 4/LF4.1.

64. Question:11602- 2.4. B. 1 lists the acceptable laminate manufacturers. Would the standard color line offered by listed manufacturers be acceptable for bidding purposes?

Answer: Standard colors will be acceptable

65. Question: Room 165 on Sheet LF2.1B calls for “Cabinets Keyed Separately”. Please confirm that all doors/drawers within a single cabinet will still be keyed alike.

Answer: Doors and drawers in the same cabinets to be keyed alike, expect for the casework on Level 1 area B classrooms. In level 1 area B all doors and drawers are to be keyed separately regardless of whether they belong to the same cabinet or not.

66. Question: Room 020 on sheet LF2.0C shows (3) Dashed MT48 tables with a note that they are part of group 2/3 equipment. Please confirm these tables are not part of BP23.

Answer: These tables will be provided by the Owner as part of the office furniture system.

67. Question: Cell Culture Labs shown on the third floor require Stainless Steel tops on the floor mounted casework. Please clarify the following: a. Are the tops for the tables epoxy resin or stainless steel? b. Is the Casework wood veneer, painted steel or stainless steel? c. Are the wall shelves painted steel or stainless steel?

Answer: As specified: a. Epoxy tops. b. Wood veneer c. Steel.

68. Question: Room 230F on sheet LF2.2B has countertops with the designation “W?”. Please confirm these are wood countertops.

Answer: Yes, provide Wood tops as noted on plan. The “?” will be deleted.

69. Question: 11601- 2.2. D. 15. c calls for explosion proof receptacles in all H-2 & H-3 locations. Room 110A on sheet LF2.1C is the only H-2 or H-3 room shown with a fume hood, and the fume hood shows that no electrical receptacles are required. Please confirm the following;
a. No receptacles are required for the fume hood in room 110A.
b. There are no other locations that would require explosion proof receptacles.

Answer: a. Receptacles are not required on the front of the hood, but may be required for connection for the fume hood alarm - Coordinate with alarm supplier.
b. Refer to floor plans; explosion-proof is typically indicated as "EP".

70. Question: Detail 7/LF 4.4 shows the maximum distance between vertical supports for the Overhead Service Carriers as 84”. This maximum distance is more commonly seen is 48”. Please confirm 84” was the intended length, or provide correct distance.

Answer: The detail is correct; the maximum distance is 84 inches.

71. Question:11602- 2.1. E.1. c. 6 calls for Grade “A” veneers at exposed surfaces, but 11602-2.1.E.1.c.7 calls for grade “AA” veneers at exposed surfaces. Please clarify.

Answer: Revised in Addendum #3 to Grade AA.

72. Question: 11602 states that the contract must be held directly by one of the listed manufacturers. Please confirm that a direct contract with one of the specified manufacturer’s dealer representatives would be acceptable.

Answer: Confirmed. Addendum #3 changed this specification section language.

73. Question:LF4.3 has metal frame work on one detail shown at 2x2 and anther at 2x3. Please advise what the size tubing is at the metal framework.

Answer: The tubing size should be 2"x3" per specifications.

74. Question: RE: detail 1/ S3.03: Are the 4- #5 reinforcing bars shown in the new footing to be furnished and installed by the soil anchor contractor?

Answer: Trade Package 1 shall provide the re-bar at the tie down anchors per scope of work paragraph 01011.01-2.6.

75. Question:Please refer to detail 1/ S3.03 Can the diameter of the soil anchor be reduced to 6” and the soil anchor made deeper to achieve the same load capacity? As long as the soil anchor achieves the required test load, isn’t the design detail of the anchor left up to the drilling contractor?

Answer: The soil anchor diameter can be reduced and the soil anchor length can be made deeper as long as the required load capacity of the anchor is not decreased. The minimum soil anchor diameter is 6 inches and the maximum bond length of soil anchor is 40 feet.

76. Question: RE: detail 1/ S3.03 3. The note in detail states that a block out in the slab shall be made above the tie-down soil anchor for lock-off. Who is responsible for the installing the block outs in the floor slab and the pour backs to fill in the block outs in the slab?

Answer: The Concrete PTC (Trade Package 4) shall provide blockouts in structural concrete per scope of work paragraph 01011.04-2.0. Earthwork PTC to provide layout and grout for this blockout.

77. Question: Please confirm that 2hr fire rating is required for fireproofing as shown on specification section 07811-3.6.

Answer: 2-hour fire resistive construction is required as shown on 07811- 3.6. The only exception is the roof slab assembly which shall require a 1-hour fire resistive rating. Please see response to question #78 below.

78. Question: Specification Section 07811Sprayed Fire-Resistive Materials Section 3.6 indicates that the roof slab assembly consists of 4-1/2" concrete toping over 2" metal deck and it shall have a 2-hour fire resistive rating. Sheet S2.41A and S2.41B indicate 3-1/2" of NW concrete over 2" metal deck, which provided a one-hour fire resistive rating. Please clarify the fire resistive rating required for the roof slab assembly.

Answer: The roof slab assembly shall have a fire resistive rating of one hour. The roof slab assembly shall consist of 3 ½" thick NW concrete over 2" metal deck.

79. Question: A6.2.1.2 details indicate 2" of fireproofing on some of the beams illustrated. Please clarify thickness of fireproofing in this sheet.

Answer: The reference to 2" thick fireproofing will be deleted from the drawings. Contractor to provide fireproofing thickness as required to meet the fire resistance requirements indicated in the contract drawings.

80. Question: The reflected ceiling plans indicate several areas that are left exposed. Will the exposed metal deck areas need to be protected or cleaned from fireproofing over spray?

Answer: The Fireproofing PTC (Trade package 18) shall protect and clean all fireproofing and overspray off of the exposed metal deck areas. Except for the fireproofing minimum depth that is required next to the protected structural steel.

81. Question:07811 - 3.2 B indicates fireproofing PTC to "clean substrates that could impair bond of fireproofing". 05120 - 2.4 indicate that the structural steel PTC is to clean all steel. Please clarify.

Answer: Both trade packages are responsible for cleaning the steel per the specifications. The Steel PTC will clean it first. The fireproofing PTC will clean the steel of any dirt, etc, that accumulates during the time between steel erection and fireproofing application.

82. Question: If heat is required to apply fireproofing per Specification Section 07811 requirements, who is responsible for the temporary enclosures and heat?

Answer: The Fireproofing PTC is responsible for their own heat, ventilation and humidity controls. Section 01011.18, Article 2.3 specifically notes that ventilation and humidity controls will be required for the basement.

83. Question: Please indicate where the Photovoltaic Collection System is specified.

Answer: In addition to the electrical scope and architectural drawings refer to Specification section 16239 Photovoltaic Collection System.

84. Question: Detail 19 on S3.00 depicts grading for bottom of aggregate underlay adjacent to the perimeter strip footing. Will the spread footing require this same grading?

Answer: Yes. Note 19/S3.00 states "Strip footing at wall shown, spread footing similar"

85. Question: Addendum 2 included a new Site Use Plan – Laydown and Staging. None of the Civil plans provided in the contract documents extend out to the limits of this new Site Use Plan. Please provide a topographic map that extends to the "Office", "Parking", "Yard" and "Future" perimeter, for grading calculation purposes.

Answer: Topographic map is not needed for this work. PTC shall blade smooth the area in rough conformance to the existing grade contours. Wet and compact site as needed to support reasonable vehicle loads before placement of fabric and gravel.

86. Question: Addendum 2 Site Use Plan – Laydown and Staging depicts the dirt spoils in an area that is roughly 60% behind a fence with no access. Please confirm that the property behind the fence belongs to the University or specify another area for the dirt spoils.

Answer: The area in question is property of UCM. Other areas east of this area may also be used for spoil storage upon approval by University Representative.

87. Question: Scope item 8 of PTC .01 specifies that the earthwork PTC shall provide the coarse aggregate under the basement SOG. Is the earthwork PTC required to complete the fine grading of the basement area and lay the filter fabric per contract drawings?

Answer: The Earthwork PTC shall provide and rough grade the rock. Fine grading of the rock under the SOG is by the Concrete PTC. The filter fabric, geotextile fabric and vapor barrier is all specified in Section 03300 and are also done by Concrete PTC. Both PTC's must coordinate with each other for this work.

88. Question: Scope Item 12 of PTC .01 describes temporary roads to be installed around the building perimeter. Please provide a width for this road.

Answer: The basis of the bid shall be that all gravel roads are 24 feet wide.

89. Question: Scope Item 13 of PTC .01 describes a new 24’ wide gravel access road to the temporary laydown area. Please provide a location and the dimensions of the temporary laydown area (assumed to be comprised of the yard, office, parking and future).

Answer: Yes, this new gravel road is about 750 feet long, north of the yard on the Addendum #2 site use plan.

90. Question: Scope Item 13 of PTC .01 describes 3” of AB road base overlay on the existing road as shown on the Site Use Plan. Please provide the width and exact length required.

Answer: Basis of bid shall be 24' wide and 900' long.

91. Question: Scope Item 13 of PTC .01 describes maintenance of the entire access road for project duration from the laydown yard to the asphalt paved road. This item appears to be unquantifiable given this PTC has no information on how the road will be used. We request that an allowance be developed to cover the cost of this maintenance.

Answer: Basis of bid shall be to re-grade road 12 times over the course of the project, after first acceptance, when directed to do so by the University representative's consultant.

92. Question: Scope Item 16 of PTC .01 describes an all weather working surface at the “Crane and Concrete Pump Set-up Area” and the “Temporary Staging Area.” Please provide dimensions for each of these areas

Answer: The areas shall be between the temp shoring and the MID access road.

93. Question: Please confirm that the 5’-10” offset noted on sheet S2.01A is from grid line 1.4 to the center of the basement wall.

Answer: Confirmed.

94. Question: Are the sun controls assemblies described in the specifications moveable or fixed?

Answer: The sun control assemblies are fixed.

95. Question: Who is responsible for providing a single line diagram for the Photovoltaic System?

Answer: The Electrical PTC shall provide a single line diagram for the Photovoltaic Collection system during the shop drawing submittal period.

96. Question: Room 155 indicates a countertop height of +36” on north & east elevations, however all the cabinets are called out as sitting height. Please confirm that wood countertop should be 30” high

Answer: Confirmed, 30" high is correct.

97. Question: LP drawings have plan note designations, however, there are no matching plan notes on the drawings. Please provide

    Answer: Refer to LP1.0 for Service Drop numbers.

98. Question: Clarify who is to furnish and install the wall end cap, painted to match the wall, as shown in Details 12 & 16/A5.3.10A

    Answer: This wall end cap shall be provided by the Drywall PTC (Trade Package 16)

99. Question: Please clarify who is to furnish and install the "solid spacer" shown in Details 21, 45 and 69/A5.3.13. What material is acceptable for this detail?

    Answer: This Aluminum plate shall be provided by the curtain wall PTC (Trade package 14).

100. Question: RE: A5.8.3/48 - The cants called out on this sheet and other various sheets call for the material to be non-combustible. Is this material suppose to be fire treated wood blocking which would fall under trade package 26 or is this not part of trade package 26?

    Answer: The cants are specified in section 07552-2.8-A. and provided by The Roofing PTC.

101. Question: Please verify that the wood blocking shown (but not identified) in Detail 38/A5.3.6, is by the Specialties PTC per 01011.26-2.0.1.

    Answer: The Specialties PTC (Trade package 26) shall provide this wood in this detail per specification 06105.

102. Question: Please clarify who is to furnish and install the steel angle, 1/8" SS plate and ¼" perforated SS plate as shown in Details 47 and 48/A9.8.1.

    Answer: The stainless steel is provided by the Misc. Metal PTV (Trade Package 9). The aluminum is provided by the curtain wall PTC (Trade Package 14)

103. Question: Please verify that the steel angles that the glass wall fittings attach to, as shown in Details 19, 30, 46, and 70/A9.8.1, and all similar, are part of the AESS steel work under Trade Package .09

    Answer: Yes, these are provided by the Misc. Metal PTC.

104. Question: Elevation 71/A5.1.1, shows the glass at the balcony guardrail to be EGL-1T, which is 1" clear dual glazed. Section 14/A5.3.6 shows this glass to be ½" clear tempered. Which is correct?

    Answer: 1/2" tempered glass is the correct material at the balcony guardrail

105. Question: 02250 has a provision that requires the PTC to monitor the excavation support system daily during excavation progress and for as long as the excavation remains open. According to the preliminary master schedule this duration runs from mid February 2012 to about October 1 2012. This works out to be about 143 work days. If the intent is to monitor movement of the shoring wall during this period then it would require survey data. The daily cost of a 2-man survey crew with a 4-hour minimum is about $1000. Please clarify.

    Answer: The intent of Section 02250, Paragraph 3.2A.2, is to require daily visual observation of the shoring system for observable damage or distress by a qualified person. Daily survey is not required. The purpose of this section is to observe for conditions the may indicate that the shoring system is failing or compromised.

106. Question: Spec. 02250- 3.3 A-1. Requires the Earthwork PTC to completely remove all elements of the shoring support system. Can the contractor de-tension the tiebacks and cut down the soldier piles a given depth below the finish grade approx. 3 to 4 feet, in lieu of removing the shoring system?

    Answer: Basis of bid shall be that at completion of work, tiebacks are to be de-tensioned; the top 5’ of the shoring system removed and the remaining shoring system is to be abandoned

in-place. Bid alternate #12 is therefore no longer applicable to the project.

107. Question: 02250- 1.4 prohibits any tieback anchors on the north and east sides. Could you please confirm the restraint for no tiebacks on these 2 sides? Tiebacks would be a less expensive way to shore and excavate the new bldg.

Answer: PTC will be allowed to use of tiebacks as long as the shoring system designer carefully considers the as-built drawings and designs the tiebacks so that they do not interfere with or damage existing utilities.

108. Question: The process cooling water (PCWS-R) is shown on the Plumbing and Lab Piping drawings after it leaves the mechanical room. The mechanical room portion is shown on drawing M2.01. Which trade contractor is to be responsible for the process cooling water, Mechanical or Plumbing?

Answer: The Mechanical PTC (Trade package 29) shall do the work shown on the Mechanical drawings. The Plumbing PTC (Trade Package 30) shall do the work on the Plumbing and Lab Piping drawings. Both PTC are responsible to coordinate the POC testing of the system.

109. Question: 01011.29 2.0 .22 d. and 01011.32 2.0 .8 d. state the Mechanical PTC will be responsible for furnishing and installing "all" components including power and control wiring of the Air Flow Control Terminal Units.
15050 calls for the BAS Contractor to be responsible for Controls - Installation, Power Wiring, and Control and Interlock Wiring.
Please Clarify.

Answer: The Mechanical PTC shall do this work per the Scope of work specification. The Mechanical specification was corrected in bid addendum #3.

110. Question: Sheet LF2.0A shows a mock-up requirement in room 080 of a single MT72A table with an MH36 mobile cabinet that abut an 18'island bench reagent shelf assembly. Sheet LF2.1A shows a Mock-Up requirement in room 160 of a single MT72E Table. Please confirm the following. a. Room 080 mock-up table and cabinet are required, but not the 18' island bench reagent shelf assembly. Room 160 mock-up table are required.

Answer: Provide mock up as noted on plans, both room 080 and room 160. Island shelving is not included in mockup.

111. Question: SPEC 11602-23 DRAWING LF1.3: Article 2.2B.4.a states that all rooms on levels 0, 2 & 3 are to include Metal tables as per the Laboratory furnishing drawings. Level 2 floor plans indicate that all tables are to be wood tables with epoxy tops as per casework legend on sheet LF1.3. Please advise as to which is correct.

Answer: Provide Wood table frames per floor plans.

112. Question: West elevation of Environmental Engineering room #050 shows a task light as 'typical' beneath an adjustable wall shelf system. Please confirm task lights are only to be provided where shown and is not typical beneath all shelves.

Answer: Task lights to be provided as shown in the floor plans.

113. Question: There are (28) Lab Panelboards shown on Drawings E0.2, E0.3 and E0.4 Single Line Diagrams. Panelboard Schedules have not been provided for these panels. Please clarify corner guard locations and specification section.

Answer: Per general note 2 on drawings E0.3 and E0.4, refer to lab electrical drawings for lab panelboard schedules.

114. Question: SpeLF1.1 / 15810 1.3 E.3.c: Stainless steel branch duct - Specification calls for duct connecting a fume hood, snorkel or other point of use, to be stainless steel. Please confirm that this requirement applies to all duct branch lines serving exhausted equipment as noted in the "Other Exhaust Equipment" schedule on LF1.1 (i.e., dwg reference tags 7A, 7B, 8A, 8B, 8C, 15 & 16).

    Answer: All duct branch lines serving exhausted equipment listed on LF1.1 shall be stainless steel as specified.

115. Question: M2.0fp: NMR Quench pipe: Please specify anchorage requirements.

    Answer: Refer to sheet note 5 on M2.0Fp for info on anchorage.

116. Question: SM2.3A & M2.3B; Fume exhaust mains: Drawing labels call for 30" x 20" and 34" x 18" horizontal stainless steel fume exhaust mains. Dwg note #1 shows point of connection between galvanized and stainless steel just prior to duct rise. Is the entire horizontal main to be stainless steel, or simply from p.o.c. up, per dwg note #1.

    Answer: Lab exhaust mains shall be SS FE from risers to POC, and horizontal mains shall be galvanized beyond POC as noted per dwg. note #1.

117. Question: Spec 15490: 1) Verify to use uninhibited propylene glycol 2) addition of 3 isolation values recommended.

    Answer: Inhibited propylene glycol (or added inhibitor) will be required. See revised specification section 15490 issued in Addendum 4. Isolation valves for the collector panels has been added in Sketch SK-P12 in Addendum 4.

118. Question: Floor sink designation missing in Room 080 and 0M2.

    Answer: Floor sink in Room 080 designation added in Addendum 3. Floor sink designation in room 0M2 is FS-1.

119. Question: Provide hose bibb designation for men and women's restrooms.

    Answer: Designation for hose bib in men and women's restroom is HB-2.

120. Question: On Drawing P2.0E, where does the 3" vent from sanitary sewage ejector rise up through the 1st Floor and vent through the Roof?

    Answer: Connects to 4" sanitary vent, D6/11 in bathroom chase space.

121. Question: Many riser designations are shown on the plan sheets but are not shown on the riser diagrams (examples are LW/F1Z, LWV/D10.6). Please provide riser diagrams.

    Answer: The riser diagram will be clarifies during construction.

122. Question: On Drawing P2.3F no waste piping is shown to sink tagged SK-1 in Room 320

    Answer: Connect to sanitary waste and vent 7' north of sink.

123. Question: Drawing P2.0B shows piping above a lab bench at Column Lines 9/A.3 with box designated A9. Where do these pipes terminate and what detail is being referenced?

    Answer: The box is a riser tag.

124. Question: Domestic water riser diagram shows the largest size for domestic hot water as 1". Pipe Riser Symbol C8, on Drawing P2.1B designates a 1 ½" DHW riser. Please clarify.

    Answer: Use 1-½".

125. Question: Domestic water riser diagram shows the DHWR piping at Column Lines 2 and C on Drawing P2.2A as ½", however, riser label at that location shows the DHWR piping as ¾". Please clarify.

Answer: Use ¾".

126. Question: P2.1C between Column Lines 10.9 and E.1 has a Plan Note Designation 8, however, there is no Plan Note 8 on this drawing, please provide.

Answer: Note removed, see Addendum 3.

127. Question: Domestic water riser diagram shows domestic hot and cold water serving the lavatories and showers from the basement. There is no distribution to these fixtures shown at Basement Level.

Answer: Intent is to serve from hot and cold water mains in the basement on P2.0C and the riser diagram shows the connection from mains.

128. Question: Domestic water riser diagram on Drawing P3.3 shows DHWR piping from sinks, however, Drawings P2.2F, P2.3E and P2.3F do not show this piping.

Answer: DHWR down to sinks is correct for stacking sinks per P3.3.

129. Question: Please reference the trap primer manifolds in numerous places with designations such as "Manifold O-D(12)". Does this refer to a 12-outlet manifold? Are these units to be surface or flush mounted? Drawings do not show water distribution from trap primers, please provide.

Answer: Correct. (X) Does refer to a (x)-outlet manifold. These units are surface mounted. Performance requirements for water are shown on the drawings. For example see: Sheet note 4 on P2.00E at Gridline D.5/11.5..

130. Question: Drawing P2.0C, Column Lines A.2 and 11 shows cold water piping with a pipe down symbol. What size is this pipe and what is it servicing?

Answer: 1-1/2" DCW down BFP-3, makeup for mechanical. See M4.1.

131. Question: Domestic water riser diagram shows DCW distribution piping to the lavatories at the Basement Level, however, Drawing P2.0C does not show this piping. Please clarify.

Answer: Intent is to serve from hot and cold water mains in the basement on P2.0C and the riser diagram shows the connection from mains.

132. Question: Drawings P2.0C, P2.1C, P2.2C, P2.3B and P2.3C show solar piping to be 1 ½", however, solar riser diagram shows this piping as 1". Please clarify.

Answer: Use 1 ½".

133. Question: The elevator specification calls for a non-proprietary system. Please clarify this requirement.

Answer: Non proprietary system language has been deleted from the elevator specifications.

134. Question: Specification Section 11602-51 / 2.11 / A / 1 calls for perforated umbilicals in rooms 050, 080, 080B & 340, but room 330 is also elevated with perforated umbilicals on sheet LF3.0. Please confirm the umbilicals in room 330 are to be provided as elevated.

Answer: Provide per specifications.

135. Question: Scope Item 7 of PTC .01 describes the enlargement of the existing gabions in accordance with landscape drawings. Are the new gabions supposed to sit on top of the existing gabions?

Answer: The new gabions walls are for grade retention only. These walls will not be connected to the existing gabions. The new walls should be outside of the existing gabions, offset by 24" (to be field verified).

136. Question: Sheets A2.1A-2, A2.1B-2, A2.2A-2, A2.2B-2, A2.3A-2 and A2.3B-2 indicate floor boxes being installed (see keynote 2.102). Will SFRM be required to be sprayed under the floor

boxes? Where are the floor boxes specified? If SFRM is required, do we install directly under the floor box, 1' past the box, or fireproof the deck to the next supporting structural member as stated in section 3.6 "comments".

Answer: Floor boxes are specified in section 16140. Sprayed fireproofing is required on the underside of the floor boxes to maintain the 2 hour fire resistance of the floor assembly similar to UL BXUV-D739. Extent and thickness of sprayed fire resistive material to be installed per the corresponding UL design number.

137. Question: Provide photovoltaic collection system point of connection.

Answer: Refer to drawing E0.2 for photovoltaic collection system point of connection to the building electrical system: Switchgear BEMSB via PV system 480 volt panel.

138. Question: Specification Section 11601-10 / 2.2 / E / 1 / a / 6 includes the SafeAire II by Thermo Fisher Scientific, but this hood is not compatible with the Automatic Sash Control System specified for the bench mounted hoods. The Thermo Fisher Scientific "Concept" hood would be required. Please confirm the Concept hood is acceptable as it meets the project specifications.

Answer: Both the manufacturer and the dealer have stated that the SafeAire II hood as specified is compatible with the specified third party automatic sash control systems. Substitution requests will be reviewed at the appropriate project phase as stated in the contract documents.

III. BIDDING/CONTRACT DOCUMENTS AND DIVISION 1 SPECIFICATIONS

A. Re-Issue the following SCOPE OF WORK TRADE PACKAGE pages:

i. TRADE PACKAGE.01 – DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS:
Delete page 01011.01-2a, 01011.01-2b (from Addendum #2)
Add pages 01011.01-2a, 01011.01-2b

ii. TRADE PACKAGE .10 – ARCHITECTURAL WOODWORK
Replace page 01011.10-1

iii. TRADE PACKAGE .14 – ALIM CURTAIN WALL, SKYLIGHTS, SUNSHADES AND METAL PANELS
Replace page 01011.14-1

B. Re-Issue the following BID FORM:

i. BID FORM and BID BOND FORM 01011.01
FOR THE FOLLOWING WORK: ALL DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS AND ASSOCIATED WORK AS DEFINED IN SECTION 01011.01 SCOPE OF WORK – DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS. Replace pages 1 through 11.
Bidder for this work shall use Addendum 4 BID FORM and BID BOND FORM.

IV. SPECIFICATIONS

A. Re-Issue the following SPECIFICATIONS SECTIONS, dated 12 December 2011:

Volume 2 of 3

Division 7 – Thermal and Moisture Protection	**Pages**
Section 07811- Sprayed Fire-Resistive Materials	9
Division 14 – Conveying Systems	**Pages**
Section 14210- Elevators	5

Volume 3 of 3

Division 15 – Mechanical	**Pages**
Section 15460- Purified Water System	2, 3, 4, 5, 7
Section 15490- Solar water Heating	1, 6, 16

V. SKETCHES

A. Replace the original REFERENCE DETAIL in the following SKETCHES, dated 12 December 2011:

Laboratory

SK-LF04 DDETAIL 68/LF4.8 GRAPHIC CLARIFICATION

Mechanical

SK-M44 LEVEL 3 – ENLARGED FLOOR PLAN

SK-M45 LEVEL 3 – ENLARGED FLOOR PLAN

Plumbing

SK-P11 LEGEND, ABBREVIATIONS, GENERAL NOTES AND SCHEDULE.

SK-P12 SOLAR HOT WATER RISER DIAGRAM

SK-P13 GENERAL FLOOR PLAN – LEVEL 1

SK-P14 GENERAL FLOOR PLAN – LEVEL 1

SK-P15 LEVEL 3 – ENLARGED FLOOR PLAN

UNIVERSITY OF CALIFORNIA, MERCED

By: University of California, Merced
University's Representative

Wenbo Yuan
Sr. Project Director

End of Addendum No. 4

~~**no tie-backs are allowed on the north or east side of the excavation.**~~ PTC will be allowed to use tiebacks as long as the shoring system designer carefully considers the as-built drawings and designs the tiebacks so that they do not interfere with or damage existing utilities. (Addendum #4) Provide and maintain building access ramp on the south side of building as shown on Site Use Plan – Building Site. Ramp shall have 12" of AB road base over geo-textile fabric and shall have means to prevent flow of water into the building (e.g. trench drain at toe of ramp). Remove ramp when directed by Owner's Representative.

~~.3 Scope of shoring work shall include removal of all shoring system components, including tie-backs.~~ See Bid Alternate No. ~~11~~ 12. (ADD#2) Basis of bid shall be that at completion of work, tiebacks are to be de-tensioned; the top 5' of the shoring system removed and the remaining shoring system may be abandoned in-place. Bid alternate #12 is therefore not applicable to the project. (Addendum #4)

.4 Provide mass excavation to subgrade of coarse aggregate base rock. Excavated soil not suitable for use as backfill shall be hauled off-site. Soil suitable for backfill may be stored on site north of North Pond as shown on drawings until required for use. Any material not used shall be disposed of off-site.

.5 Provide and maintain OSHA approved handrails and toe boards at excavation perimeter.

.6 Provide foundation tie-down anchors per structural drawings. Scope includes reinforcing steel and threaded bars. Coordinate work with structural concrete contractor.

.7 Enlarge existing Gabions in accordance with Landscape Drawings at the beginning of the mass excavation work. Coordinate the Gabions with the new grading of the slope around the northern pond.

.8 Provide coarse aggregate base rock under basement SOG and for the building sub drain system. Coordinate installation with Concrete PTC and Plumbing PTC.

.9 Backfill of building foundation walls as required. Backfill of building foundation walls shall be after placement and curing of 1st floor slab.

.10 Provide all site fill and grading to within .1'(+/-) of landscape/hardscape subgrade.

.11 Provide all site asphaltic paving and base. Scope includes stripping.

.12 Provide temporary roads around building perimeter per Site Use Plan – Building Site. Roads include area identified as Temporary Road and MID Access and shall consist of 12" of AB road base over geo-textile fabric. Replace existing boxes with traffic bearing boxes/lids as required. Maintain roads for project duration, as stipulated in Specification 01113-1.3.B.

.13 Construct and maintain 24' wide temporary new gravel access road to temporary laydown area as shown on Site Use Plan – Laydown and Staging. Road shall consist of geo-textile fabric and 12" of AB road base. Provide 3" of AB road base overlay on the existing access road as shown on the Site Use Plan – Laydown and Staging. Maintain the entire access road base for project duration, from the laydown yard to the asphalt paved road. Provide for drainage under the road as necessary. (ADD#2)

.14 Construct temporary laydown area as shown on Site Use Plan – Laydown and Staging. The office and yard area shall be graded flat and suitable for trailers. Corrdinate with other PTC for underground utilities. Future area may be used for spoils, and then completed after mass excavation. Laydown shall consist of 6" AB road base over geo-textile fabric. Maintain temp laydown area until job completion. .(ADD#2)

.15 ~~Provide 10' wide cart path from laydown area to footbridge per Site Use Plan – Laydown and Staging. Path shall consist of 4" AB road base over geo-textile fabric~~. Maintain existing concrete cart path from the laydown parking to the pedestrian bridge for project duration. .(ADD#2)

.16 Provide all weather working surface at areas south and west of the building identified as either Crane and Concrete Pump Set-up Area or Temporary Staging Area with geo-textile fabric and 6" of AB road base. Existing rock at building pad may be re-used for this purpose.

.17 Provide dust control until all finish landscape and hardscape is completed.

SECTION 01011.10

SCOPE OF WORK

TRADE PACKAGE .10 – ARCHITECTURAL WOODWORK

1.0 SCOPE OF WORK – SPECIFICATIONS

Furnish all labor, material, equipment, taxes, and supervision necessary to perform all requirements of Division 0, Division 1 and the following specification sections in complete accordance with the Contract Documents:

	SPECIFICATION SECTION TITLE	SPECIFICATION SECTION
.1	Reclaimed Wood	06053
.2	Site Carpentry	06125
.3	Interior Finish Carpentry	06202
.4	Interior Architectural Woodwork	06402
.5	Joint Sealants	07920 (as applicable)
.6	Linear Wood Ceilings	09546
~~.7~~	~~Display Cases~~	~~10125~~ ADD #4

2.0 SCOPE OF WORK – SPECIFIC

Prime Trade Contractor (PTC) includes, but is not limited to, the following specific items required for Prime Trade Contractor's work:

.1 Provide site carpentry items including but not limited to wood slats for concrete seat walls, wall mounted bench and tables. Scope includes SS rods and spacers but excludes concrete and metal supports.

.2 Provide all interior wood casework per Architectural Drawings. Work includes bases, cabinets, all countertops, wood benches, reception desks and similar items.

.3 Provide and complete the upholstered leather seats for second floor precast concrete bench and cubes.

.4 Provide and complete the T&G wood for second floor custom table.

.5 Provide wood paneling.

.6 Provide all interior and exterior wood ceilings including necessary supports and hangers. Scope includes black matt insulation blankets.

.7 Joint sealants where this work abuts dissimilar materials – e.g. at drywall.

.8 Provide detailed layout drawings and details for coordination of backing required for this work. Installation of backing is to be by others.

SECTION 01011.14

SCOPE OF WORK

TRADE PACKAGE .14
ALUM CURTAIN WALL, SKLIGHTS, SUNSHADES AND METAL PANELS

1.0 SCOPE OF WORK – SPECIFICATIONS

Furnish all labor, material, equipment, taxes, and supervision necessary to perform all requirements of Division 0, Division 1 and the following specification sections in complete accordance with the Contract Documents:

	SPECIFICATION SECTION TITLE	SPECIFICATION SECTION
.1	Self-Adhering Sheet Air Barriers	07271 (as applicable)
.2	Insulated-Core Metal Wall Panels	07413
.3	Composite Wall Panels	07415
.4	Joint Sealants	07920 (as applicable)
.5	Aluminum-Framed Entrances	08411
.6	Interior Aluminum-Framed Storefronts	08412
.7	Aluminum-Framed Folding Operable Storefront	08413
.8	All-Glass Entrances and Storefronts	08450
.9	Automatic Entrance Doors	08460
.10	Door Hardware	08710 (as applicable)
.11	Automatic Door Operators	08716
.12	Glazing	08800
.13	Mirrors	08830
.14	Glazed Aluminum Curtain Walls	08911
.15	Structural Glass Walls	08970
.16	Structural Glass Canopy	08971
.17	Fluoropolymer Special Coating System	09961 (as applicable)
.18	Display Cases	10125 ADD #4

2.0 SCOPE OF WORK – SPECIFIC

Prime Trade Contractor (PTC) includes, but is not limited to, the following specific items required for Prime Trade Contractor's work:

.1 Provide Self-Adhering Sheet Air Barriers behind wall panels, curtain wall and other finishes installed in this PTC scope, as detailed in the contract documents. Coordinate edges of sheet air barrier with other Prime Trade Contractors adjacent to this work to verify that uniform lap width and end laps are maintained across both PTC's work. Overlap and seal seams, and stagger end laps to ensure airtight installation.

.2 Provide Insulated Core Metal Wall Panels (Metal Wall Panel System Type 2) and Composite Wall Panels (Metal Wall Panel System Type 1) complete, as detailed in the contract documents.

REVISED (ADDENDUM 4)
BID FORM

FOR: PROJECT NO. 900020

SCIENCE AND ENGINEERING BUILDING 2

UNIVERSITY OF CALIFORNIA
MERCED CAMPUS, MERCED COUNTY
MERCED CALIFORNIA

BID TO:

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

FOR THE FOLLOWING WORK: ALL **DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS AND ASSOCIATED WORK AS DEFINED IN SECTION 01011.01 SCOPE OF WORK – DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS**

BID FROM: _____
(Name of Firm Submitting Bid)

_____
(Address)

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

_____ _____
(Telephone Number) (Fax 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 license required by the State of California and the Bidding Documents; b) it has carefully read and examined the Bidding Documents for the proposed Work on this Project; c) it has examined the site of the proposed Work and all Information Available to Bidders; d) it has become familiar with all the conditions related to the proposed Work, including the availability of labor, materials, and equipment. Bidder hereby offers to furnish all labor, materials, equipment, tools, transportation, and services necessary to complete the proposed Work on this Project in accordance with the Contract Documents for the sums quoted. Bidder further agrees that it will not withdraw its Bid within 60 days after the Bid Deadline, and that, if it is selected as the apparent lowest responsive and responsible Bidder, that it will, within **10** days after receipt of notice of selection, sign and deliver to University the Agreement in triplicate and furnish to University all items required by the Bidding Documents. If awarded the Contract, Bidder agrees to schedule and execute the Work in accordance with the Master Project Schedule to be developed, maintained and updated by the University's Representative's Consultant (McCarthy Building Co. Inc., Construction Manager). Bidder agrees to fully complete the Work within the Contract Time.

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 the Advertisement for Bids. 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

$ | | | , | | | | , | | | | . | | |

(Place figures in appropriate boxes.)

Bidder shall also include in the LUMP SUM BASE BID the following allowance:

$35,000.00 for ALLOWANCE No. 01 – DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS:

Include an allowance of **thirty five thousand dollars ($35,000.00)** for additional work associated with this trade required during the progress of work.

5.0 SELECTION OF APPARENT LOW BIDDER

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

6.0 UNIT PRICES (NOT USED)

7.0 DAILY RATE OF COMPENSATION FOR COMPENSABLE DELAYS

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

(MINIMUM AMOUNT ALLOWED IS $1.00)

$ [ ][ ] , [ ][ ][ ] . [ ][ ] x 60 multiplier

(Place figures in appropriate boxes.)

Failure to fill in a dollar figure for the daily rate for Compensable Delay shall render the bid non-responsive. 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.

8.0 ALTERNATES *(NOT USED)* (ADD#4)

~~In order for a Bid to be responsive, Bidder must submit an additive bid, a deductive bid or a "no change" bid for each Alternate listed below. The failure to do so shall result in the Bid being rejected as non-responsive. The failure to quote an amount, unless the bidder marks the "no change" box, will result in the bid being rejected as non-responsive.~~

~~ALTERNATE #12~~

~~DESCRIPTION: Deduct Requirement to remove Shoring~~

~~**Add or Deduct**~~

[-------] $ [----][--------][------] , [------][--------][-------] . [-------][-------]

☐ ~~**No Change: Bidder will perform this Alternate without change to Contract Sum**~~ (ADD#4)

9.0 LIST OF SUBCONTRACTORS

Bidder will use Subcontractors for the Work: (Yes or No) _____

If yes, provide in the spaces below (a) the name and the location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the state of California who, under subcontract to the prime contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of 1/2 of 1 percent of the prime contractor's total bid, (b) the portion of the work which will be done by each subcontractor. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in its bid.

	Subcontractor	
Work Activity	Name	Location (City)

(Note: Add additional pages if required.)

10. LIST OF CHANGES IN SUBCONTRACTORS DUE TO ALTERNATES

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

		Subcontractor	
Alternate No.	Work Activity	Name	Location (City)

(Note: Add additional pages if required.)

11.0 SCOPE OF WORK

Bidder includes the scope of work as defined in Specification Section **01011.01 – DEMOLITION, EARTHWORK, PAVING, SHORING AND TIEDOWNS**

12.0 BIDDER INFORMATION

TYPE OF ORGANIZATION:

_____

(Corporation, Partnership, Individual, Joint Venture, etc.)

If a corporation, corporation is organized under the laws of:
the State of._____

NAME OF PRESIDENT OF THE CORPORATION:

_____

NAME OF SECRETARY OF THE CORPORATION:

_____

IF A PARTNERSHIP, NAMES OF ALL GENERAL PARTNERS:

_____

_____

_____

_____

CALIFORNIA CONTRACTORS LICENSE(S):

_____	_____
(Name of Licensee)	(Classification)
_____	_____
(License Number)	(Expiration Date)

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

13.0 BIDDER QUALIFICATIONS

Bidder must complete the information listed below and submit this Bidder Qualification Form with the bid. Bidder's failure to submit this form shall be considered nonresponsive and the Bid shall be rejected. Bidder's failure to meet the minimum requirements listed below shall be determined as the firm not being qualified to bid and the bid shall be rejected as non-responsive.

A. SAFETY PROGRAM

Is Bidder's Experience Modification Rate (EMR) less than 1.25 for each of the past 3 premium years? (Not applicable for self-insured firms)

Yes ☐ No ☐ Self Insured ☐

List Experience Modification Rate: 2010: _____ 2009:_____ 2008: _____

B. LIST TWO COMPLETED PROJECTS BY BIDDER:

List two (2) projects of similar size, scope and complexity performed and completed by Bidder within the last 5 years with a final contract value of at least 50% of the value of this Trade Package that demonstrates as the Prime Contractor prior success, experience and competency with this "Scope of Work".

Project #1 (valued at least 50% of the value of this Trade Package)

Project Name:_____

Project Address:_____

_____

Owner's Name:_____

Owner's Contact Person: _____ Phone No._____

General Contractor:_____

General Contractor's Contact Person:_____ Phone No._____

Original Contract Sum:_____ Completion Date:_____

Description of the Work:_____

_____

_____

Project #2 (valued at least 50% of the value of this Trade Package)

Project Name:_____

Project Address:_____

_____

Owner's Name:_____

Owner's Contact Person: _____ Phone No._____

General Contractor:_____

General Contractor's Contact Person:_____ Phone No._____

Original Contract Sum:_____ Completion Date:_____

Description of the Work:_____

_____

_____

All information requested above must be provided or your bid shall be deemed non-responsive.

C. **LIST ONE COMPLETED PROJECT BY BIDDER'S FIELD SUPERINTENDENT:**

List one similar project completed within the last 5 years, valued at least 50% of the value of this Trade Package, by the below listed Field Superintendent that demonstrates prior experience regarding this "Scope of Work":

Field Superintendent Name*:_____

Employer's Name:_____ Phone No._____

Project Name:_____

Project Address:_____

_____

Owner's Name:_____

Owner's Contact Person: _____ Phone No._____

General Contractor's Name:_____

General Contractor's Contact Person: _____ Phone No._____

Original Contract Sum:_____ Completion Date:_____

Description of the Work:_____

_____

_____

***Proposed Field Superintendent must be approved by the University Representative prior to execution of the Contract and issuance of the Notice to Proceed. Substitution of Bidder's Field Superintendent is not allowed unless approved by the University Representative. The substituted Field Superintendent is to possess experience equal to or exceeding previously listed superintendent.**

All information requested above must be provided or your bid shall be deemed non-responsive.

14.0 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.

15.0 DECLARATION

I, _____ (Printed name), hereby declare that I am the _____ (Title) of _____ (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 bidders 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 an advantage against the public body awarding the contract of anyone interested in the proposed contract' that all statements contained in the bid are true; an, 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 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 subscribed at: _____ (Name of City if within a City, otherwise Name of County), in the State of _____, on _____ (Date).

_____
(Signature)

EXHIBIT 1B

DECLARATION OF CONTRACTOR / SUBCONTRACTOR MINIMUM OCCUPATIONAL SAFETY AND HEALTH QUALIFICATIONS

CERTIFICATION PURSUANT TO GOVERNMENT CODE SECTION 4420

The minimum occupational safety and health qualifications for each Contractor and Subcontractor are as follows:

1) Contractor/Subcontractor has no serious and willful violations of Part 1 (commencing with Section 6300) of Division 5 of the Labor Code during the five (5)-year period prior to execution of this certification.
2) Contractor/Subcontractor has maintained a Workers' Compensation Experience Modification Rate (EMR) that averages below 1.30 for the past three years. If Contractor/Subcontractor has been in business for less than three years, then they must have maintained a workers' compensation Experience Modification Rate (EMR) that averages below 1.30 for all years they have been in business.
3) Contractor/Subcontractor has instituted an injury prevention program pursuant to Section 3201.5 or 6401.7 of the Labor Code and will provide University with a complete copy upon request.

The undersigned certifies that (1) it meets the minimum occupational safety and health qualifications set forth above and, (2) declares, under penalty of perjury, that the foregoing is true and correct.

Firm Name: _____ _____
[List California license classification(s)]

Firm Address: _____

Printed Name: _____ Title: _____

Signature: _____ Date: _____

This declaration was duly executed on the above listed date at:

_____ / _____ / _____

Name of City (if within a city) County State

Exhibit 1B

March 2, 2011
UCIP

BID Bond

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____,

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

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

TRADE PACKAGE: .01 DEMOLITION, EARTHWORK, PAVING, SHORING & TIEDOWNS
SCIENCE AND ENGINEERING BUILDING 2 PROJECT NO. 900020
UNIVERSITY OF CALIFORNIA, MERCED
MERCED CALIFORNIA

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

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

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

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

IN WITNESS WHEREOF, we have hereunto set our hands this _____ day of _____, 2011.

Principal:	_____ (Name of Firm)	Surety:	_____ (Name of Firm)
By:	_____	By:	_____
Title:	_____	Title:	_____
		Address for Notices:	
			_____
			_____
			_____

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

3.6 SCHEDULE OF FIRE-RESISTANCE RATED TESTED ASSEMBLIES

BUILDING ELEMENTS	CBC 2007 Table 601 Exceeds Fire-Resistance Rating Requirements for Building Elements - Type IIA	RATING	UL DESIGN	COMMENTS
COLUMNS	Structural Fame	2 hour	X772	For all wide flange columns exceeding W 6x9
AT STAGING ROOM	Structural Fame	2 hour	X795	High Density Fireproofing
AT TRASH ROOM	Structural Frame	2 hour	X795	High Density Fireproofing
PRIMARY BEAMS				
AT FLOORS	Structural Fame	2 hour	N782	
AT ROOF	Structural Fame	2 hour	N782	
AT STAGING ROOM	Structural Fame	2 hour	X795	High Density Fireproofing
AT TRASH ROOM	Structural Frame	2 hour	X795	High Density Fireproofing
SECONDARY BEAMS				
AT FLOORS	Floor Construction	2 hour	N782	
AT ROOF	Roof Construction	2 hour	P732	
AT PENTHOUSE	Roof Construction	2 hour		
AT STAGING ROOM	Structural Fame	2 hour	X795	High Density Fireproofing
AT TRASH ROOM	Structural Frame	2 hour	X795	High Density Fireproofing
FLOOR SLAB				Typical;
(4-1/2" concrete topping over 2" metal deck)	Floor Construction	2 hour	D925 ~~D919~~ *(ADD#4)*	
FLOOR SLAB				
(2-1/2" minimum concrete topping over 2" metal deck)	Floor Construction	2 ~~1~~ hour *(ADD#4)*	D750	Reduced slab at location shown on Edge of Slab Drawings. ~~Deck thickness at slab reductions require to be sprayed to the next supporting member.~~ *(ADD#4)*
ROOF SLAB				
(3-1/2" ~~4-1/2"~~ concrete topping over 2" metal deck)	Roof Construction	1 ~~2~~ hour *(ADD#4)*	D925 ~~D919~~ *(ADD#4)*	

Fireproofing Schedule:

Notes:

1. Fireproofing by formula may be used per UL Directory, "Adjustment of Sprayed Protection Material."
2. All fireproofing UL design numbers are for unrestrained construction.

END OF SECTION 07811

(ADD#4) 12/12/2011; Addendum No. 4

1.9 MAINTENANCE

A. Warranty Period Maintenance: Provide the following new installation warranty period full maintenance for 12 months. Identify the cost of this Maintenance as a separate line item in bid proposal.

B. General. Provide 5 year maintenance agreement in accordance with University of California, Merced Elevator Maintenance Service Specification 14211 upon completion of manufacturer's 12 Month Warranty and other warranty requirements herein. In addition to requirements in elevator maintenance scope contained in 14211 to include but not be limited to: *ADD #3*

1. Examinations: Including monthly adjustments, cleaning, lubrication and maintenance of equipment in accordance with University of California, Merced Elevator Maintenance Service Specifications 14211.*ADD #3*

2. Replacement: Replace components when required, using parts produced by original manufacturer.

3. Spare Parts: Provide a lockable steel cabinet to house necessary spare parts; maintain locally an inventory of all wearing parts of the elevator system.

C. Call Backs: Provide 24-hour emergency call back service at no additional expense.

D. Extension of Maintenance Period: If equipment related shutdowns during the warranty period exceed an average value of 3.0 per elevator per year, extend the maintenance period monthly at no charge until this average value is not exceeded for the prior 12 month period.

E. ~~Non-Proprietary System~~Serviceability by Others[ADD#4]: Provide a ~~non-proprietary~~ elevator system maintainable by elevator contractors other than the elevator manufacturer. Upon substantial completion of elevator installation, provide all tools, software, licenses for use, diagnostics, manuals, parts lists and technical data necessary for maintenance of the elevators. Software and tools are to be non-expiring and for use at this site location only. Provide up to 12 hours of on-site elevator maintenance training.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Otis Elevator Company

B. Dream Ride Elevator

C. Mitsubishi Elevators + Escalators

D. Schindler Elevator Corporation

E. Or Equal.

1. Submit to the University's Representative a document stating that welders are qualified to ASME, Section IV Code in 6-G positions. The welder's qualification test must closely duplicate actual field conditions at the Project Job Site, including the use of clean pipe fittings. The welding will be inspected for contours on the root pass and for oxidation. University's Representative approved sample joints shall be stored at the Job Site for future reference.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Purified Water Systems as a minimum shall include the following:

1. All piping to be Schedule 80 PVC utilizing components having threaded, flanged, and/or socket-glued connections. Components to be skid mounted on a carbon steel, powder coated frame; pre-piped and pre-wired. Seismic Design Skid, Seismic Calculations Included. *(ADD#4)*

2. Twin alternating softener shall operate in parallel with sequential regeneration.
   a. Tank designed for 100PSI working pressure. The softener tank shall be 21" diameter x 62" high fiberglass. *(ADD#4)*
   b. Water softeners shall be capable of removing all by 5 PPM of hardness when the resin is regenated at a dosage of 15 pounds of sodium chloride per cubic foot of resin. Siemens PTCTD21X62, Continental, or equal. *(ADD#4)*
   c. Brine System: tank, molded corrosion free, rigid polyethylene with cover. The brine system shall automatically open to brine, close to prevent entrance of air, and refill the brine tank with the proper amount of water. The brine tank will be equipped with a float operated shut-off to prevent brine tank overflow.
   d. Automatic controls, 8-cycle control valve, computer timer to control all functions-backwash, settle, brine, soak, slow rinse, rapid rinse, brine tank refill and service.
   e. Water testing; the softener shall be provided with test valve for obtaining samples of the effluent water.
   f. Warranty: fiberglass tanks and salt containers shall be warranted forup to 18 months after start up. *(ADD#4)*

3. Multi-media Filter for turbidity reduction, 21" x 62" high fiberglass tank with 3 types of filtration media: anthracite, sand and garnet, 2" multi-port brass valve, timer initiated backwash controls inside of NEMA 3R enclosure. Siemens PTCMPS21X62, Continental, or equal. *(ADD#4)*

4. Carbon Filter for removal of chlorine and organic contaminants to protect the RO membrane. Tank liners blow-molded plastic fiberglass wrapped, with motorized control valve and automatic backwash controller. Siemens DICARO360FSP, Continental, or equal. *(ADD#4)*

5. Filter pre-filter housing and cartridge; 304 stainless steel high polish brushed finish, with fibrous pleated 6 cartridge AMETEK, Continental, or equal filters.

6. Reverse Osmosis System with spiral wound membrane to reject 96% to 98% of the dissolved solids and 99+ percent of organic contaminants, bacteria, viruses and particulate matter in the feed water. The system shall be fully automatic and shall employ as a minimum: automatic controller, high and low feed pressure shut-off with visual alarm, level control sensor, pretreatment interlock, automatic flush, conductivity meter and reject re-circulation. The water recovery and average membrane flux ranges from 65 – 80% recovery and 14 – 18 GFD respectively. Siemens M41RGP004ESB, Continental, or equal. *(ADD#4)*

7. Two (4) 4" x 10" thin film composite (TFC) brackish water membranes. Multi-stage centrifugal pump, 316 wetted parts, polypropylene filter housing with 5 micron cartridges. Schedule 80 PVC for low pressure piping, brass for high pressure piping. MC10 controller and motor strarter inside NEMA 4 enclosures. Instrumentation shall be for conductivity, temperature, pressure and flow rate. See equipment specifications section additional information. Seismic design skid. *(ADD#4)*

8. Storage Tank 1550 gallon capacity flat bottom, polyethylene (PE) tank and meets FDA regulations. Tank shall be 61" diameter x 141" high. The tank shall have a top quick access 18" manway with a gas-tite positive cover. The only air entering the tank shall be through two 20" length hydrophobic vent filters with 0.2 micron cartridges. Tanks shall have tank connections for back pressure control valves for purified water returns. *(ADD#4)*

9. Level control system to signal to RO to turn off when tank is full and starts the RO when level drops 12" from the point. Turns off the re-circulation pumps when the tank nears empty. Level for overflow set at 6" below tank's overflow outlet to sound alarm at control panel.

10. Control panel shall be NEMA 4 prime coated steel enclosureskid mounted, complete with hinged door with locking latch, low tank level alarm light and alarm horn, and alarm silence switch and reset, H-O-A switches. Control panel shall include water booster pump operation, including fused disconnect for each pump, 24-hour run timer, automatic electric alternator, including pump failure alarms. Unit shall be completely factory assembled and wired for automatic operation. Furnish panel wiring diagram inside door. Panel shall include LED's for power-on, green LED for pump-on, red LED for pump failure, green LED for tank full, red LED for low tank level alarm, incoming RO water pressure gauges, discharge deionized water pressure gauges. Control panel also shall include LCD resistivity reader and monitor, and alarm for below setpoint resistivity. Furnish with auxiliary alarm contacts for remote monitoring by Building Automation System. *(ADD#4)*

11. All pretreatment piping shall be Schedule 80 PVC utilizing components having threaded, flanged, and / or socket-glued connections. All post treatment piing shall be socket fusion, pigmented, polypropylene utilizinjg components having threaded, flanged, and /or socket-weld connections. Components to be skid mounted on a carbon steel, powder coated frame: pre-piped and pre-wired. Seismic Design Skid. *(ADD#4)*

12. Siemens Deionization Recirculation Skid Model DIRS-50-PP Manufacturer: Siemens Water Technologies High Purity Water System, U.S. Filter, Mar-Cor or equal. *(ADD#4)*

B. Water Booster Pumps: Grundfos, G&L Pumps, or equal, duplex multiple-stage type 316 stainless steel pumps complete with premium efficient, TEFC motor with dripless mechanical shaft seals, and suitable for deionized water. Each pump shall have variable frequency drives with internal pressure transmitters and high pressure protection switches. The system shall have one low pressure switch. It is important that the flow through the circulation loop is continuous and that it has a minimum velocity of 5 feet per second to impede the growth of bacteria in the loop. One pump is on standby while the other is in operation. Max flow is rated at 50 GPM controlled via VFD. Main Control Panel is Siemens programmable logic controller (PLC) with Thornton M300 Quality Monitor and NEMA 4 Enclosure. *(ADD#4)*

C. Pressure Gauge Guard: Plast-O-Matic Series GGMT, gauge guard with PVDF guard housing complete with flexible PTFE diaphragm suitable for 0-100 psi operating pressure range.

D. Provide skid mount assembly for duplex circulating pumps, UV sterilizer, secondary and tertiary filters, complete with isolation valves, and pump control panel specified in 2.25A above.

E. Bottle Rack for Service DI Tanks Pigmented Polypro, socket fusion piping header with isolation valves. Carbon steel, powder coated bottle rack (1 x 7). Exchange type, 14-inch diameter column, with nominal capacity28,800 grain capacity, 3.6 cu. Ft. combined volume of cation /anion resin, minimum flow rate of 1.5 GPM at 5 PSI pressure drop, and nominal flow rate of 10 GPM with maximum pressure drop of 12 PSI. *(ADD#4)*

F. UV Sterilizer shall incorporate shields on inlet and outlet piping. Aquafine CSL series, ultra-violet lamp sterilizer with polypropylene piping offset outlets and stainless steel casing, flanged connections, flanged connections, 120V-single phase, 61 amps.

2.2 FILTERS

A. Pre-Filter: Siemens, Millipore, or equal, “Big Blue” housing with 5 micron filter cartridge.

B. Siemens, Millipore, or equal, on-site rejuvenating service carbon filter cylinders.

C. Post Filter: Siemens, Millipore, or equal, 1.0 micron filter cartridge.

D. Final Filter: Siemens, Millipore, or equal, 0.1 micron filter cartridge.

E. All housing shall be 316L stainless steel with threaded connections, U.S. Filter, Cuno, Millipore, or equal, ZHH00010, capacity for 7-round 10-inch filter cartridges at 50 GPM max. *(ADD#4)*

F. FINAL WATER QUALITY *(ADD#4)*

1. Resistivity – 18 megohm per cm. *(ADD#4)*
2. Bacteria: Less than 10 CFU per 100 ml. *(ADD#4)*
3. Particles: Less than 500 particles per 1000 ml. *(ADD#4)*
4. TOC: Less than 1 PPM. *(ADD#4)*

5. Silica: Less than 0.1 PPM. *(ADD#4)*

PART 3 - EXECUTION

3.1 PREPARATION

A. General: All preparation shall be performed in the presence of the University's Representative.

B. RO Water Systems: All material shall be stored in a sheltered location out of the direct sunlight. Pipe and fittings once cleaned shall be stored and handled in such a manner as to prevent damage and contamination. Any material which becomes damaged must be replaced with new, clean material. All cleaning shall be performed in the presence of the University's Representative. Reclean contaminated materials as approved by the University's Representative.

1. During installation, keep all piping, fittings and valves clean, with all open ends capped. Heating and clamping surfaces shall be cleaned with a clean, lint free cloth or towel. Piping shall be washed with an acetone soaked, clean, lint free paper towel. These towels shall only be used once and then disposed of. Washing shall include both the inside and outside surfaces of the pipe.

2. Disassemble valves and clean them with a phosphate-free, non-ionic detergent, such as Alconox, Alco Jet or Triton X-100 or an equal. Rinse with Type E-III water and blow dry with dry nitrogen. Nitrogen shall be filtered through a 0.2 micron or better filter.

3.2 INSTALLATION/APPLICATION/PERFORMANCE/ERECTION

A. Reverse Osmosis Water Systems

1. All tools used for purified water pipe installation and cleaning shall be new, unused, and kept separate from other tools and used exclusively for deionized water piping. They shall be cleaned at a minimum daily and blown dry with 0.2 micron filtered nitrogen.

2. Cut pipe with wheel-type plastic cutter only. Each cut shall be deburred with the pipe piece oriented vertically with the end to be deburred pointing downward. Pipe shall be used within 24 hours of the preparation of the ends and cleaning.

3. Hacksawing shall not be permitted.

4. Tools shall be thoroughly cleaned each day. Fusion heater shall be kept clean and free of any type of built-up material which will cause discoloration or prevent proper fusion bond.

5. After pipe is cut, deburred and chamfered, clean the disturbed external end using electronic grade acetone with a clean, lint-free cloth which shall be used only once and discarded. Immerse at least 10 pipe diameters into an ultrasonic cleaner containing isopropyl alcohol. Blow dry with gaseous nitrogen.

found on fusion welded joints, joints shall be cut out and replaced. Retighten flanged or threaded joints.

10. Repressurize system to 30 psi and observe for 24 hours. No pressure drop shall be observed other than temperature change compensation. Do not exceed 30 psi test pressure at any time.
11. Hydrostatic test to 90 psi. Verify with manufacturer prior to testing.
12. Make hydrostatic test of the piping system prior to cleaning. Water used for hydrostatic testing and flushing shall be at least equal to the latest ASTM Proposed Standard for Type-III Electronics Grade Water or have a minimum resistivity of 8 megohm-cm and be filtered through a 0.45 micron absolute type filter. Water of this quality or better shall be used in all phases of cleaning and testing and shall be called Type E-III water.
13. Do not fill system with city water or D.I. water. Final leak testing will be done upon system startup. Prime Trade Contractor shall repair any leaks discovered during the final test, as approved, and at no additional cost to the University.
14. Leaks shall be repaired prior to the final sterilization of the system.
15. Final cleaning and purity testing shall be performed in the presence of a representative of the RO plant manufacturer.

END OF SECTION 15460

(Add#4) 12/12/2011; Addendum No. 4

SECTION 15490 - SOLAR WATER HEATING

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The work includes, but is not necessarily limited to, the furnishing and installing of all solar water heating system, as shown and noted on the Drawings and specified herein. ~~It is not~~ The drawings and specifications are not ~~necessarily~~ all-inclusive, and are meant to be suggestive in nature requiring the vendor to provide all of the necessary components, details, etc.. At completion of work the system shall be continuous, operational, ~~and~~ functioning, and serviceable in the proper manner. This section shall be responsible for determining all items and quantities required. *(ADD#4)*

1. The system shall be arranged for preheating domestic water using three (3) flat plate type liquid solar collectors and three (3) vacuum tube type liquid solar collectors, and (3) future collectors of the Owner's choice, (operable in any combination selected by the owner) including the solar collector array, storage tanks, pumps, automatic controls, instrumentation, interconnecting piping and fittings, uninhibited food-grade propylene-glycol and water heat transfer fluid in a closed loop, heat exchanger, expansion tank and accessories required for the operation of the system. *(ADD#4)*
2. Domestic cold and hot water piping.
3. Piping and tank insulation.
4. Valves, including shut-off valves for isolating every system component, ~~reduced pressure principal backflow preventer, water pressure reducing valves,~~ balancing valves, check valves, globe valves, pressure gauges, thermometers, relief valves, vents, fill components, glycol fill maintenance station, drains, etc. *(ADD#4)*
5. Pipe expansion loops.
6. Pipe hangers, support devices, and seismic bracing of piping and equipment.
7. Pressure testing of piping.
8. Sterilization of potable cold and hot water piping systems.
9. Furnish and install all metal fabrications required for piping supports.
~~9.~~10. Charging the system with the specified propylene glycol and a means of maintaining the system charge using a pumped glycol fill maintenance station, due to loss of fluid due to potential pressure relief valve discharge, leakage, inadvertent valve opening, etc. *(ADD#4)*

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Drawings and general provisions of Division 1 Specification Sections and Section 15050 Basic Materials and Methods apply to the Work of this Section, including:

1. Section 15430 – Plumbing Specialties.

B. The interior of the storage tank shall be resin material coated to provide protection against corrosion. The storage tank shall be constructed in accordance with the ASME Boiler and Pressure Vessel Code requirements, stamped and registered with the National Board of Boiler and Pressure Vessel Inspectors. The storage tank shall have a 125 psi working pressure and be supplied with an ASME temperature and pressure relief valve.

C. The storage tank shall be furnished with a factory installed heavy steel jacket finished with a baked acrylic enamel finish for outdoor installation. The storage tank shall be completely encased in a minimum of 2" thick, high density polyurethane foam insulation and shall have an R value of not less than 30, and meet the energy efficiency requirements of the latest edition of the ASHRAE 90.1 Standard. The tank shall be supplied with a drain valve and lifting lugs.

D. Tank penetrations shall be designed to allow for connections to copper piping without risk of corrosion due to dissimilar metals, and shall be factory installed as indicated.

2.7 TUBE-IN-SHELL HEAT EXCHANGER

A. Heat exchanger shall be a double wall, removable bundle, shell-and-tube type. Shell, tube sheets, and end plates shall be constructed of nonferrous, brass, copper-nickel. Tubes shall be seamless copper or copper alloy and shall be mechanically bonded, welded, or brazed to the end tube plates. Tubes shall be straight and supported by tube sheets which maintain the tubes in alignment.

B. The tube bundle heating element shall be constructed and stamped according to section VIII of ASME code. The tube bundles shall be constructed of 3/4" O.D. 20 GA. deoxidized drawn copper tubing. The heating coils shall be installed in the tank by bolted connection to the collar flange and tube head. Tube dimensions; 14" diameter x 120"long

2.8 HEAT TRANSFER FLUID

A. Solar collector loop fluid shall be uninhibited USP/food-grade propylene glycol with corrosion inhibitor added separately (or inhibited USP/food-grade propylene glycol) and shall be mixed with distilled or demineralized water ~~to form a 50 percent by volume propylene glycol solution as shown~~for freeze protection down to 15 deg F. *(ADD#4)*

2.9 PUMPS

A. Vertical Close Coupled Pumps shall be ~~Taco Model 0012-IFC, 5 gpm, 30ft head, 1760 rpm, 1/8 hp or approved equal~~as scheduled on the drawings. The pumps shall be single stage end suction rear pull out design. The seal shall be serviceable without disturbing the piping connections. *(ADD#4)*

B. Pump casing shall be constructed of ASTM A48, Class 30 cast iron. The pump casing/volute shall be rated for 150 psi working pressure for all jobs. The pump flanges shall be matched to suit the working pressure of the piping components on the job, with either ANSI Class 125 flanges. The pump casing shall be drilled and tapped for gauge ports on both the suction and discharge connections and for a drain port at the bottom of the casing. The casing shall have an

operation and maintenance procedures. This training shall include: normal system operation and control; flow balancing; detection of a nonfunctioning system due to sensor, controller, and/or mechanical failure; filling, draining, and venting of the collector array; replacement of sensors, collectors, and collector components; collector cleaning and inspection for leaks; and heat exchanger cleaning and expansion tank charging if applicable.

3.21 COMMISSIONING

A. Engage a factory-authorized service representative to perform startup service.

B. See Section 01810 – Commissioning

C. Complete the Pre-Functional Checklist, Section 15970 – Mechanical Commissioning, Part 4.

END OF SECTION 15490

(ADD#4) 12/12/2011; Addendum No. 4

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ADDENDUM 4

DETAIL 68/GRAPHIC CLARIFICATION
DRAWING TITLE

SKLF04
DRAWING NUMBER

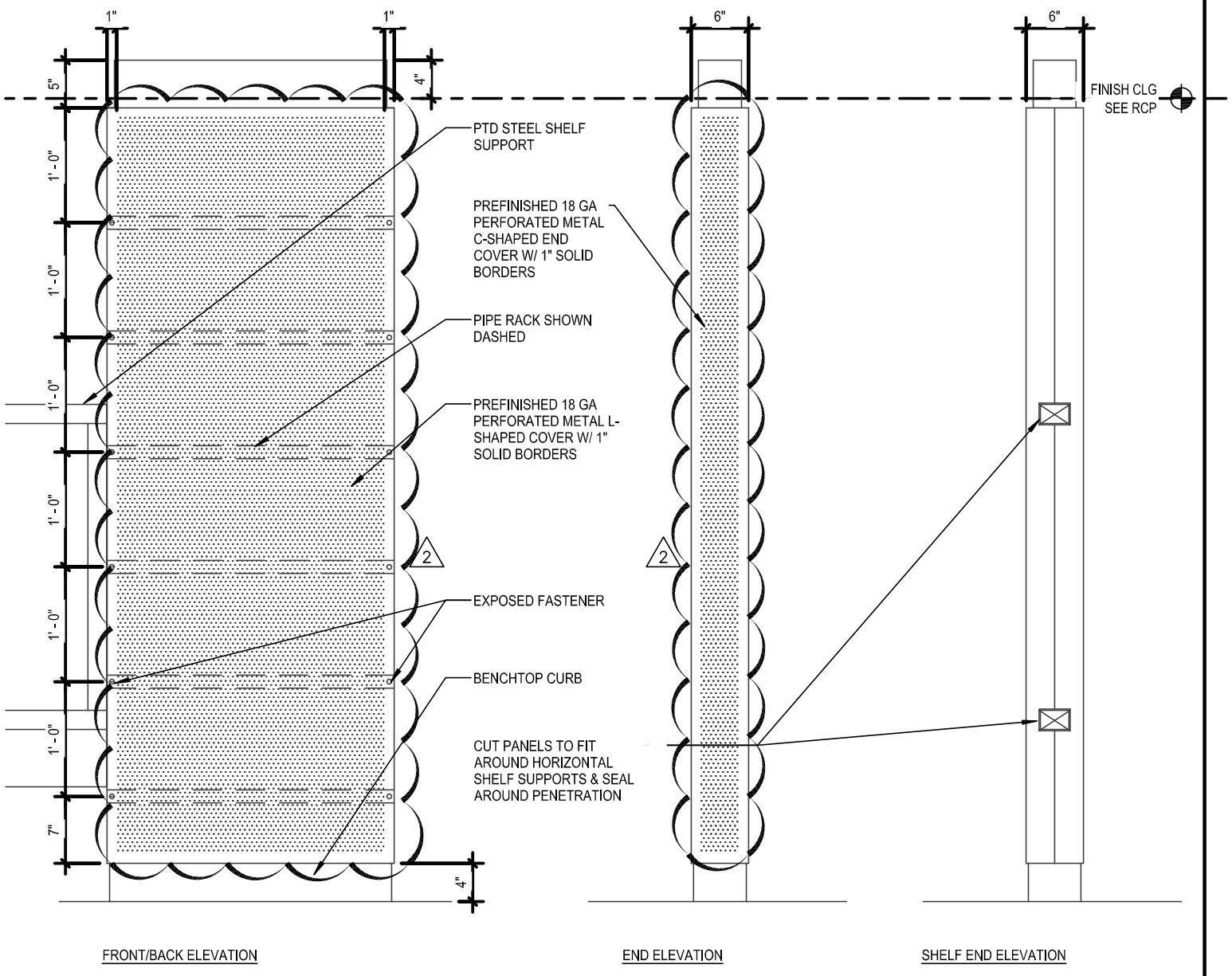
LF4.8
DRAWING REFERENCE

UC Merced Science and Engineering Building 2
PROJECT NAME

3/4"=1'-0"
DRAWING SCALE

38354.000
PROJECT NUMBER

12 DEC 2011
DATE

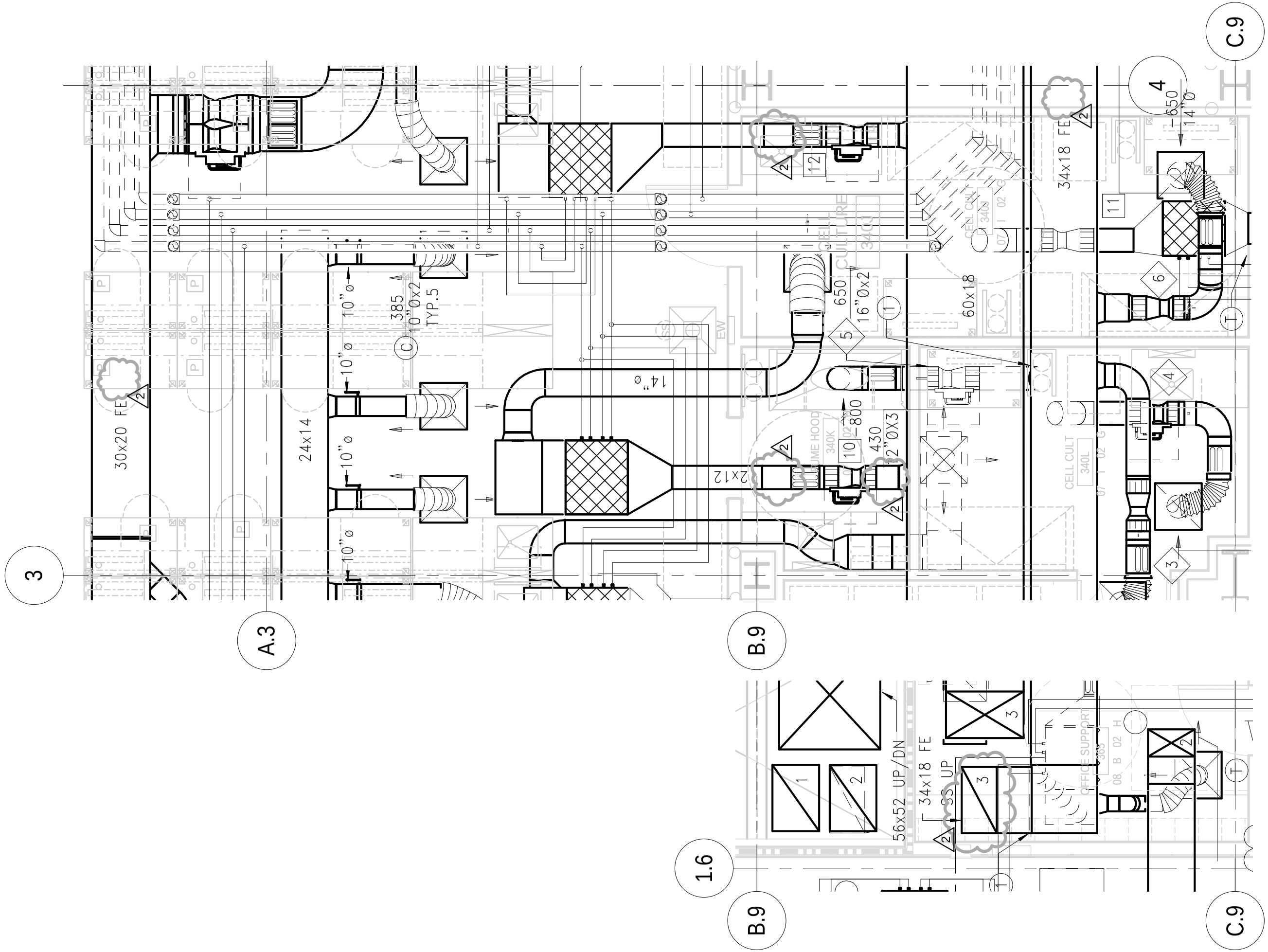


FRONT/BACK ELEVATION

END ELEVATION

SHELF END ELEVATION

RFD
RESEARCH FACILITIES DESIGN
3965 Fifth Avenue, Suite 400
San Diego, California 92103
TEL 619 · 297 · 0159
FAX 619 · 294 · 4901



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ADDENDUM 4

LEVEL 3 - ENLARGED FLOOR PLAN
DRAWING TITLE

M2.3A
DRAWING REFERENCE

1/4" = 1'-0"
DRAWING SCALE

12/12/11
DATE

UC Merced Science and Engineering Building 2
PROJECT NAME

38354.000 — PROJECT NUMBER
900020 — UC PROJECT NUMBER

SK-M44
DRAWING NUMBER

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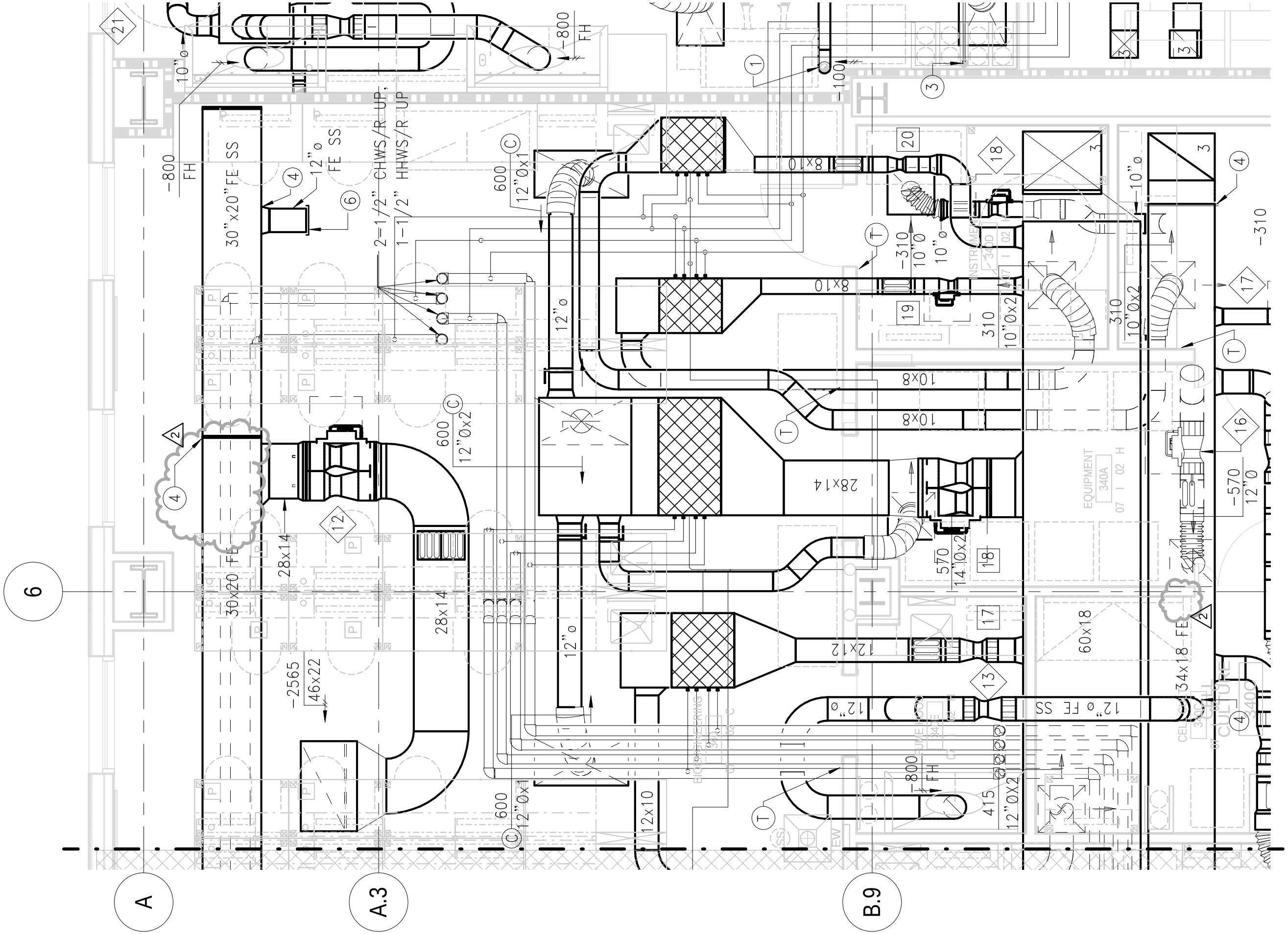

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ADDENDUM 4

LEVEL 3 - ENLARGED FLOOR PLAN
DRAWING TITLE

M2.3B
DRAWING REFERENCE

1/4" = 1'-0"
DRAWING SCALE

12/12/11
DATE

UC Merced Science and Engineering Building 2
PROJECT NAME

38354.000 900020
PROJECT NUMBER UC PROJECT NUMBER

SK-M45
DRAWING NUMBER

PLUMBING EQUIPMENT SCHEDULE

TAG	ITEM	DESCRIPTION, SEE SPECIFICATION FOR ADDITIONAL INFORMATION
BFP-1	BACKFLOW PREVENTER	REDUCED PRESSURE, 60 GPM
BFP-2	BACKFLOW PREVENTER	DOUBLE CHECK, 1000 GPM
BFP-3	BACKFLOW PREVENTER	REDUCED PRESSURE, 20 GPM
BFP-4	BACKFLOW PREVENTER	REDUCED PRESSURE, 150 GPM
HB-3	HOSE BIBB	RECESSED STAINLESS STEEL BOX WITH DOOR AND T-LOCK, 3/4" INLET x 3/4" HOSE END

2

PLUMBING PUMP SCHEDULE

TAG	LOCATION	SERVICE	FLOW (GPM)	HEAD (FT)	ELECTRICAL				MANUFACTURER	REMARKS
					HP(EA)	V	Ø	Hz		
SOL-1	PLBG RM 0P1	SOLAR WATER	12	10	1/8	120	1	60	TACO MODEL 0012-BF4-1FC	4

2

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ADDENDUM 4

LEGEND, ABBREVIATIONS, GENERAL NOTES & SCHEDULE
DRAWING TITLE

P0.1 & D-ALT10-P0.1
DRAWING REFERENCE

NONE
DRAWING SCALE

12 DEC 2011
DATE

UC Merced Science and Engineering Building 2
PROJECT NAME

38354.000
PROJECT NUMBER

SK-P11
DRAWING NUMBER

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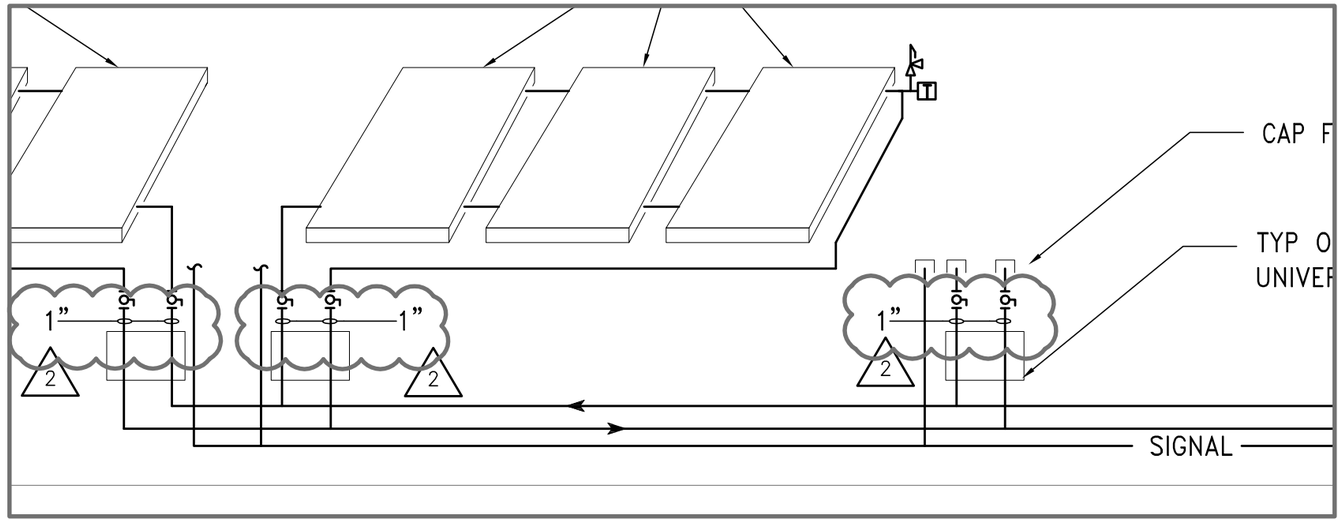

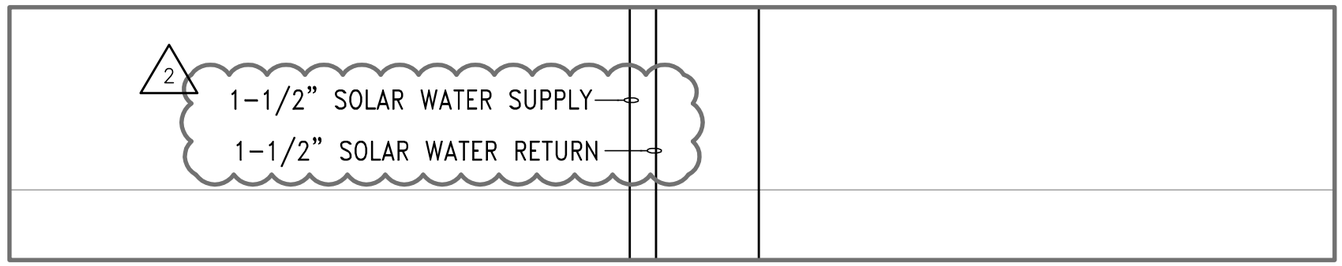

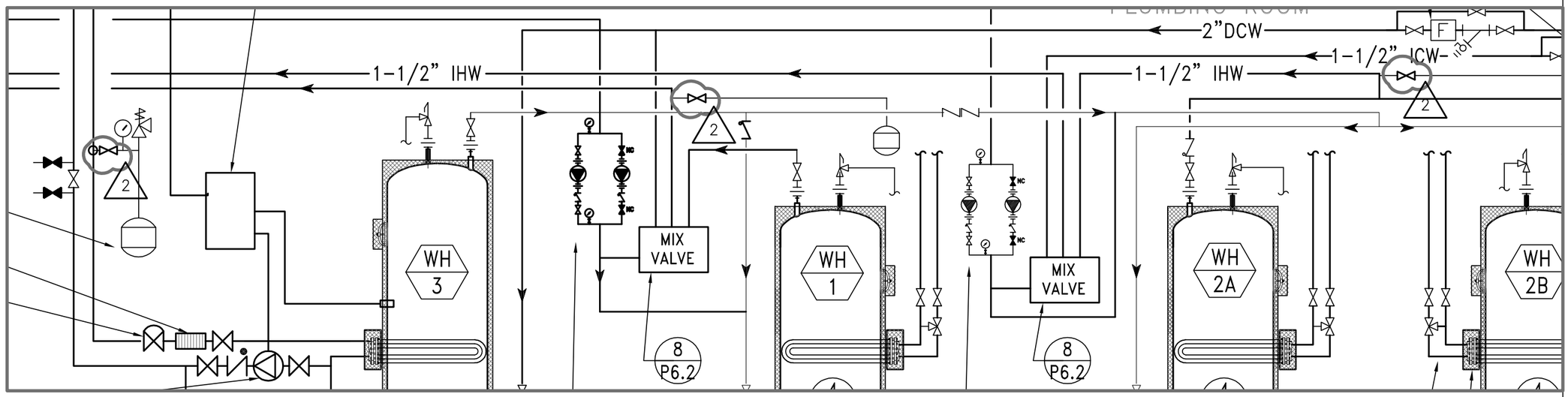

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ADDENDUM 4

SOLAR HOT WATER RISER DIAGRAM
DRAWING TITLE

P3.6 & D-ALT10-P3.6
DRAWING REFERENCE

NONE
DRAWING SCALE

12 DEC 2011
DATE

UC Merced Science and Engineering Building 2
PROJECT NAME

38354.000
PROJECT NUMBER

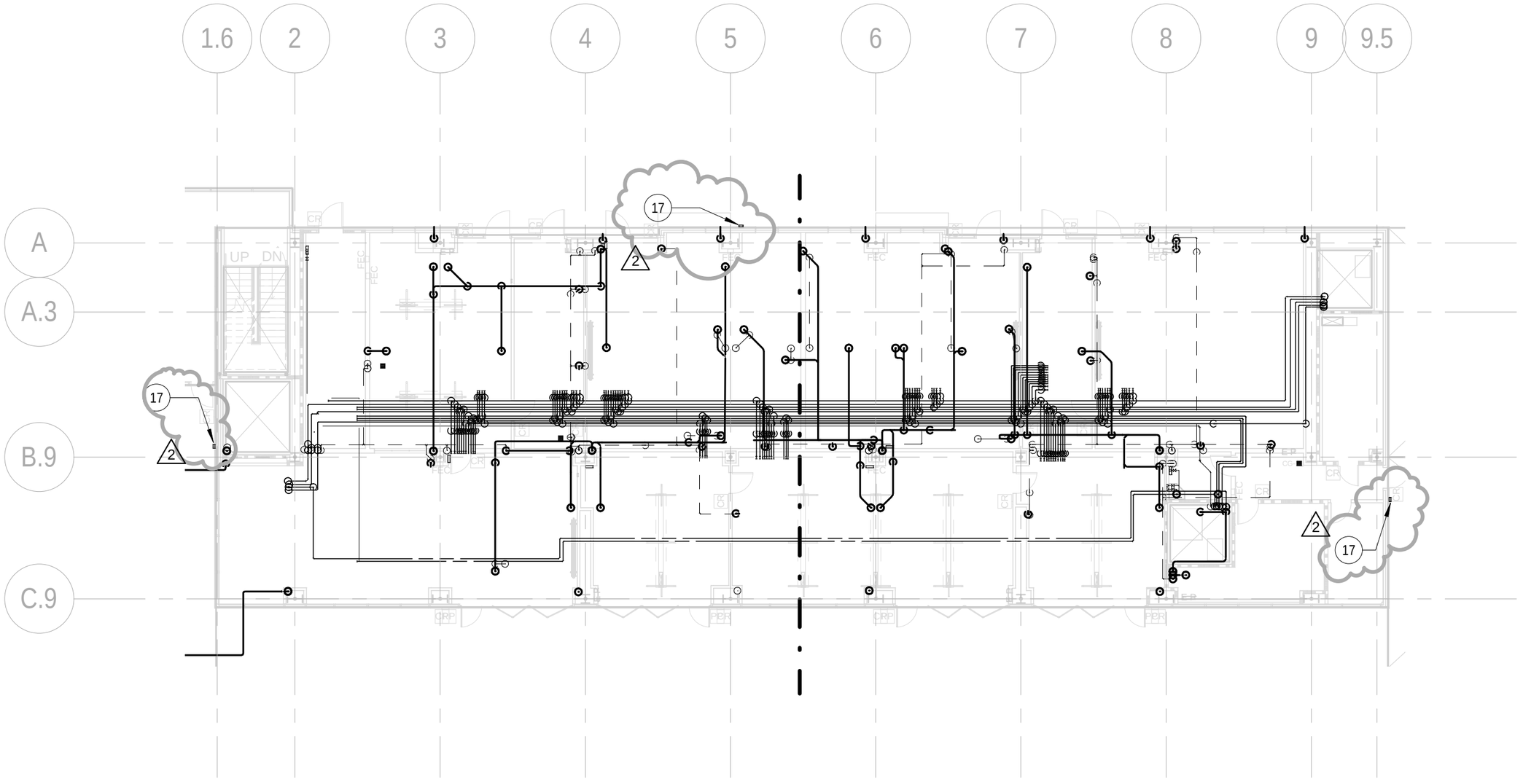
SK-P12
DRAWING NUMBER

Plot Date: 11/16/2011 1:28:00 PM

SHEET NOTES:

17 HB-3. PROVIDE 3/4" DCW, CONNECT TO FLOOR DCW MAIN. COORDINATE EXTERIOR ELEVATION WITH ARCHITECTURAL.

2



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ADDENDUM 4

GENERAL FLOOR PLAN - LEVEL 1
DRAWING TITLE

P2.1A & P2.1B
DRAWING REFERENCE

1/16" = 1'-0"
DRAWING SCALE

12/12/11
DATE

UC MERCED SCIENCE AND ENGINEERING BUILDING 2
PROJECT NAME

38354.000 — PROJECT NUMBER
900020 — UC PROJECT NUMBER

SK-P13
DRAWING NUMBER

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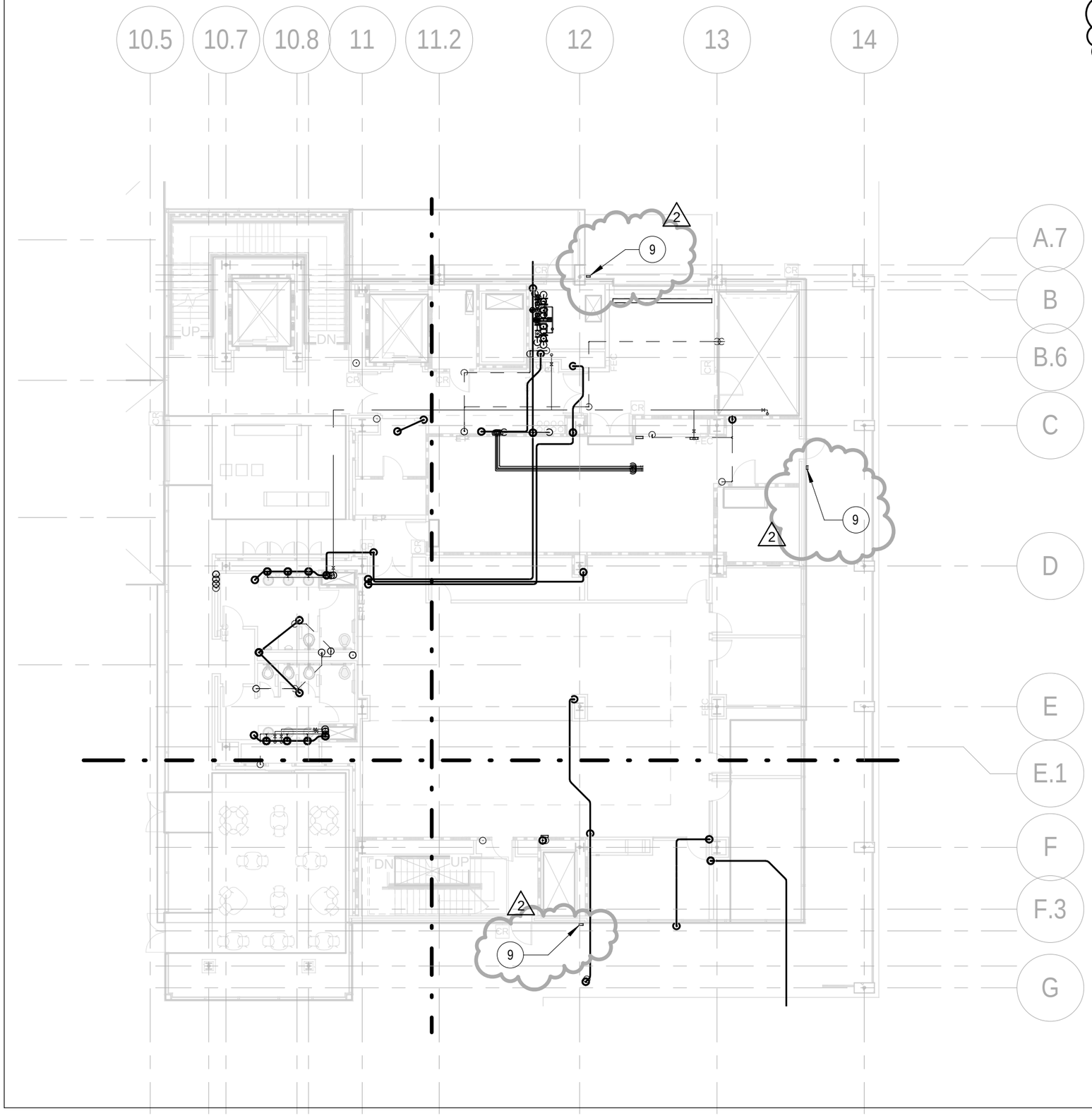

SHEET NOTES:

9 HB-3. PROVIDE 3/4" DCW, CONNECT TO FLOOR DCW MAIN. COORDINATE EXTERIOR ELEVATION WITH ARCHITECTURAL.

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ADDENDUM 4

GENERAL FLOOR PLAN - LEVEL 1
DRAWING TITLE

P2.1C, P2.1E, & P2.1F
DRAWING REFERENCE

1/16" = 1'-0"
DRAWING SCALE

12/12/11
DATE

UC MERCED SCIENCE AND ENGINEERING BUILDING 2
PROJECT NAME

38354.000 900020
PROJECT NUMBER UC PROJECT NUMBER

SK-P14
DRAWING NUMBER

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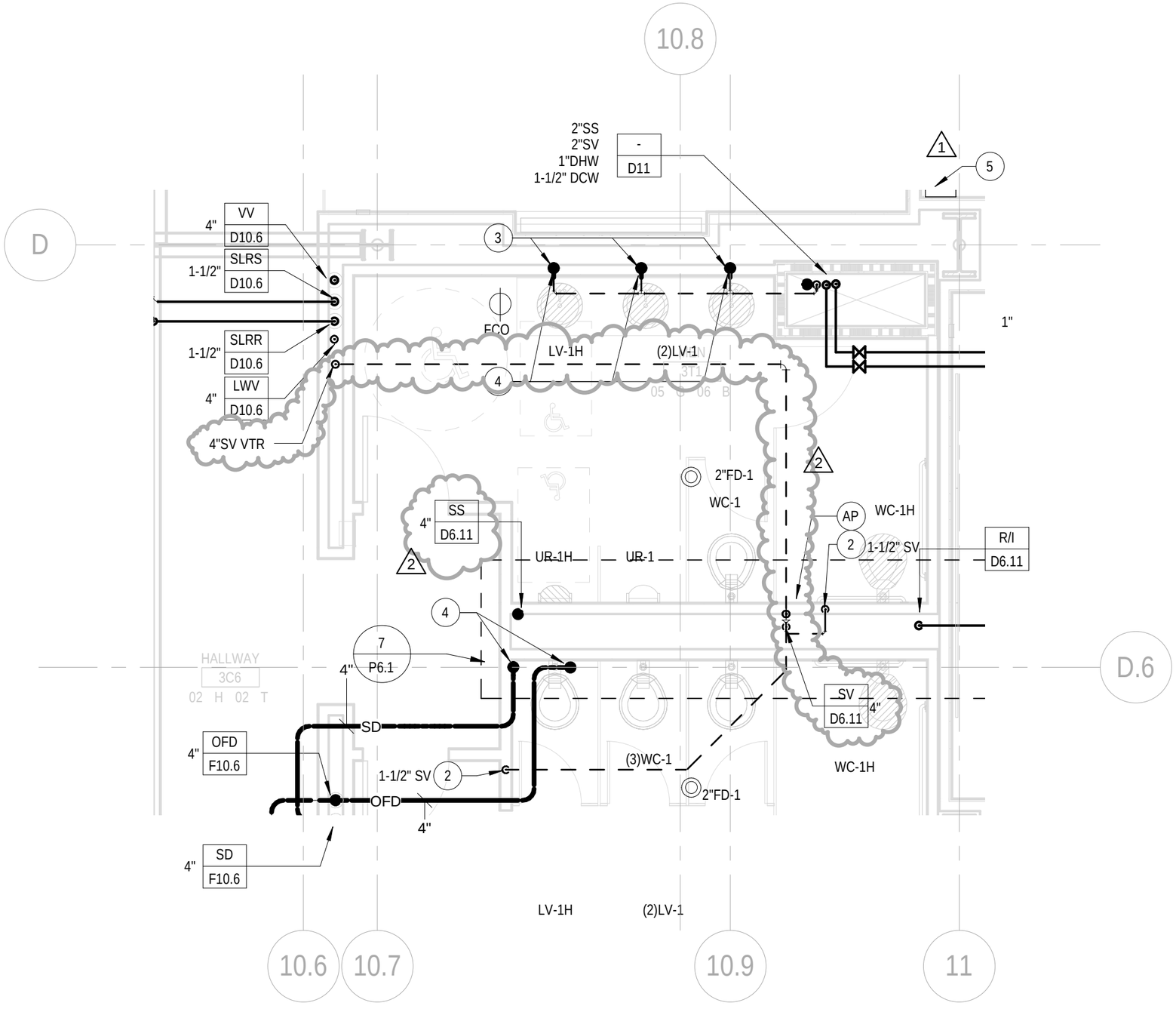

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ADDENDUM 4

LEVEL 3 - ENLARGED FLOOR PLAN
DRAWING TITLE

P2.3C
DRAWING REFERENCE

1/4" = 1'-0"
DRAWING SCALE

12/12/11
DATE

UC MERCED SCIENCE AND ENGINEERING BUILDING 2
PROJECT NAME

38354.000 — PROJECT NUMBER
900020 — UC PROJECT NUMBER

SK-P15
DRAWING NUMBER

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