

ADDENDUM NO. 8

(3/16/2021)

for the

UCR BATCHELOR HALL RENEWAL PROJECT

PROJECT NO. 950464-950531

University of California, Riverside
Planning, Design, & Construction
1223 University Ave., Suite 240
Riverside, CA 92507

ALL BID PACKAGES

The following changes, additions, or deletions shall be made to the following documents as indicated for this Project; and all other terms and conditions shall remain the same.

1. Delete the Bid Form for Bid Package # 16 ‘Resilient Flooring’ issued with the original bid documents and replace with the attached Bid Form for Bid Package # 16, Addendum No. 8 – 3/15/21.

Note the following changes:

- Elevator cab flooring is added to the scope of this Bid Package as Alternate No. 3.

2. Delete the Scope-of-Work document for Bid Package # 16 ‘Resilient Flooring’ issued with the original bid documents and replace with the attached Scope-of-Work document for Bid Package # 16, Addendum No. 8 – 3/15/21.

Note the following changes:

- Add Item # 1 to section VII ‘Alternates’, re: Elevator No.1 cab flooring.

3. Delete drawing sheets G-201 and G-202 issued with the original bid documents and replace with the attached drawing sheets G-201 and G-202, Addendum No. 8 – 3/15/21.
4. Delete drawing sheet I-600 issued with the original bid documents and replace with the attached drawing sheet I-600, Addendum No. 8 – 3/15/21.
5. Delete Specification Section 14 22 00 issued with the original bid documents and replace with the attached Specification Section 14 22 00 ‘Modernization of Elevators’, Addendum No. 8 – 3/15/21.

6. Please note the following RFI Questions & Answers:

<u>RFI #</u>	<u>QUESTIONS & ANSWERS</u>
1 - 32	Responses issued in previous Addenda.
33	<p>Question: The elevator specification 142210 is very vague. Please clarify:</p> <ul style="list-style-type: none"> - 1.2.E. 'Serviceability' states, "...guarantee that the product will be supported for a minimum of 20 years". Can, "or as long as the product is supported by the OEM" be added? - 1.2.E-4. We will provide a parts list but no prices since prices will change with time. Please confirm. - 1.2.E-6. Please provide a time limit and a way to adjust hourly rates based on the year that said technical work is provided. - 2.1.A. Elevator No. 1 - 18: 'Power Unit' is generally referenced for hydraulic elevators; this elevator is a geared traction elevator. The intent is to provide new. Please provide direction. - 2.1.A. Elevator No. 1 - 29: 'Car Enclosure - Provide New.' What is the scope-of-work for the car enclosure? Please clarify. - 2.7.G. Hall Position Indicators - Please clarify which landings should be included.

	<ul style="list-style-type: none"> - 2.9.A. Passenger - This only references the emergency light unit; there is no mention of any other cab enclosure scope-of-work. 2.1.A-29 mentions "Provide New". Is there any additional work to be included as part of the cab enclosure? If so, please add description to scope-of-work. - 2.11.2.b. 'Horizontal Acceleration' - Has there been a reading of the existing elevator to confirm that the maximum 12 mg peak to peak is achievable? If so, please provide the report. - 2.11.3.a & b. 'Sound Control' - Has there been a reading of the existing conditions to confirm that the airborne noise levels are achievable? If so, please provide the report. - 2.13.B 'Controller' - What are the pre-approved controllers for this project? <p>Document Reference: Spec Sec 14 22 10</p> <p>Answer:</p> <ul style="list-style-type: none"> - 1.2.E. Specification to remain as written. - 1.2.E-4. Per attached revised specification, language modified to remove estimated escalation cost. - 1.2.E-6. Escalation to be based on established industry percentages. - 2.1.A. Elevator No. 1 - 18: Per attached revised specification, power unit removed. - 2.1.A. Elevator No. 1 - 29: Car materials are per I-600. Flooring to be Nora Grano color to be selected. - 2.7.G. Hall Position Indicators - Per attached revised specification, all landings should be included. - 2.9.A. is in addition to the standard new cab required by 2.1.A.29 and the car operating panel in 2.7.1.B. - 2.11.2.b. 'Horizontal Acceleration' - No available information - 2.11.3.a & b. 'Sound Control' - No available information - 2.13.B 'Controller' - Per attached revised specification, Motion Controls, ThyssenKrup, and Otis (listed in order of preference).
34 - 45	Responses issued in previous Addenda.
46 - 48	See response to RFI # 113.
49 - 52	Responses issued in previous Addenda.
53 - 54	See response to RFI # 113.
55 - 57	Responses issued in previous Addenda.
58	See response to RFI # 113.
59 - 87	Responses issued in previous Addenda.
88	<p>Question: Is there a preferred chemical treatment contractor for this project?</p> <p>Document Reference: N/A</p> <p>Answer: Any qualified chemical treatment company who holds a Qualified Applicators License and a Pesticide Business License as per the CADPR. Campus facilities services currently uses San Joaquin Chemicals, Inc.</p>
89 - 95	Responses issued in previous Addenda.
96	See response to RFI # 113.
97	Response issued in previous Addenda.

98	See response to RFI # 113.
99 - 112	Responses issued in previous Addenda.
113	<p>Question: RFI # 36 response in Addendum 5 states “Temporary systems required to maintain the usability of areas that are not under construction are part of the scope of this project”. Please provide the requirements for these Temporary Systems (type, capacity, etc.).</p> <p>Document Reference: G-201, G-202</p> <p>Answer: Temporary systems required to maintain the usability of areas that are not under construction, or areas specified to remain fully operational, are part of the scope of this project. When one portion of the building is shut-down for construction (see Phasing Plan on sheets G-201 & G-202), the power, lighting, HVAC, and plumbing systems to all other portions of the building that are not under construction, where users are to be relocated, or areas specified to remain fully operational, must be kept continually functioning at pre-construction levels, without any degradation to these services.</p> <p>Please note that <u>all</u> of the existing exhaust fans will need to be removed from their current locations during Phase 0 to facilitate the demolition of the Roof level Penthouse (‘doghouse’). The Roof level Penthouse houses the exhaust fans, DI water treatment system, and other building equipment. Prior to demolition/removal, the Contractors for Bid Packages 01, 02, & 04 will be required to submit a general service disruption plan which outlines how exhaust, DI water, and other systems operations will be maintained within specification during this time. Where services disruptions are anticipated, a specific Method of Procedure (MOP) must be submitted for University review and approval.</p> <p>The manner in which these essential services/utilities are kept functioning is left up to the responsible trade contractor as a ‘means and methods’ option. For example – the HVAC contractor could employ a temporary rental fan with a capacity large enough to service all of the exhaust needs of those portions of the building that remain open, or they could opt to relocate and use the existing exhaust fans that are slated to be replaced to temporarily service the building’s needs. When required capacities are not stated or in doubt for any reason, bidders should use the designed capacities of the new/replacement equipment/systems for their calculations.</p> <p>Please note the following:</p> <ul style="list-style-type: none"> • Keen Hall (North Wing) must remain fully operational except for scheduled and coordinated shutdowns (which have been reviewed and approved by the University) during the construction process. • The Metabolomics labs (2nd Level, Area ‘B’, South Wing between grid lines 9 – 15 and C – A’, including Rooms 2203, 2205, 2207, 2211A-C, 2215, 2215B-D, and 2164 per G-202) must remain fully operational except for scheduled shut downs (which have been reviewed and approved by the University). Contractors will be required to provide temporary services for shutdowns exceeding four (4) hours in duration. • Life safety egress lighting must be operational prior to the demolition of the generator on the south wing roof and must remain code-compliant through the entire construction period.

- All coordinated shutdowns must have MOP submitted and approved a minimum of 30 days in advance of requested date.
- At the beginning of construction, there will be a coordination phase which will determine what the exact phasing and shutdown plan will be.
- Electrical subs are to assume they will need to work with the mechanical contractor to provide temporary power where needed.
- Sizing of temporary systems shall be based on proposed system or existing system need whichever is greater.

HVAC (BP#01) bidders need to include in their pricing all costs to maintain current HVAC and exhaust levels for those portions of the building that are not under construction. In addition, please note:

- Keen Hall (North Wing) air handlers within the basement must remain fully operational; all scheduled shutdowns must be aligned.
- Make-up air from the basement into the West Wing chase must remain in operation at all times until the new air handlers for each Phase are enabled, except for scheduled shutdowns during the construction process.
- Make-up air for the South Wing must remain in operation at all times to support Metabolomics labs; all scheduled shutdowns must be aligned.
- Active fume hoods must remain in operation and perform as specified at all times.
 - The HVAC contractor will be required to provide fume hood performance testing (face velocity profiling and smoke pattern testing as per ANSI/OSHA standards) following any modification to the fume hood, room HVAC, or related systems; this includes provisions for temporary mechanical units and/or ductwork. Performance testing shall be provided by the Contractor via a vendor approved by the University. Following completion of the work and as a part of the commissioning process, the Contractor must provide certification (ASHRAE 110) for all fume hoods. Costs for performance testing and certification must be included in the bidder's price.
 - Flexible ducting may be utilized for temporary conditions (6 - 9 months maximum) in order to facilitate roof work and new exhaust fans.
 - Flexible ducting shall be PTFE, Hypalon, or equal.
 - Recommended are PTFE, Hypalon, or equal type material for excellent chemical resistance, specifically for chemical fume exhaust;
 - Ensure that the negative pressure rating aligns with temporary fan performance, thus mitigating the chance of failure;
 - Ductwork should have smooth interior, be continuously supported, and sloped back to the fume hood (do not want low points where corrosive condensation may pool).
 - Temporary ducting must not diminish the performance of fume hoods in any way.
 - At Contractors option Rigid or Flex Type 1 PVC temporary ducting may be utilized.
 - Temporary sections to tie in at the roof level in order to limit duct run lengths.
 - Pre and post fume hood testing will be required and will be coordinated by UCR EH&S.
- Keen Hall (North Wing) utilities from the basement must remain fully operational; all scheduled shutdowns must be aligned.

- Chilled water for cooling must remain in operation at all times, except for scheduled shutdowns during the construction process.
- Heating water for heating must remain in operation at all times, except for scheduled shutdowns during the construction process.
- Steam for any existing humidification purposes can be disabled for the duration of all phases.
- Steam for any laboratory purposes must be coordinated with the UCR Users to determine the use, schedule, and extent of allowable shutdowns during the construction process.

Plumbing (BP#02) bidders need to include in their pricing all costs to maintain continuity of systems to ensure the functionality of those portions of the building that are not under construction, including the installation of temporary backflow prevention devices (and/or any other means required) where necessary to isolate portions of the system. All piping systems (i.e. chilled water, heating hot water, etc.) must remain functional throughout construction. In addition, please note:

- Keen Hall (North Wing) utilities from the basement must remain fully operational; all scheduled shutdowns must be aligned.
- Potable cold water for domestic and laboratory industrial purposes must remain in operation at all times except for scheduled shutdowns during the construction process.
- Potable hot water for domestic and laboratory industrial purposes must remain in operation at all times except for scheduled shutdowns during the construction process.
- RO/DI water for any laboratory purposes must be coordinated with the UCR Users to determine the use, schedule, and extent of shutdowns during the construction process.
- Laboratory compressed air for laboratory purposes must remain in operation at all times except for scheduled shutdowns during the construction process.
- Laboratory vacuum for laboratory purposes must remain in operation at all times except for scheduled shutdowns during the construction process.
- Natural gas for any laboratory purposes must be coordinated with the UCR Users to determine the use, schedule, and extent of shutdowns during the construction process.
- Sanitary and laboratory waste/vent shutdowns must be segregated to minimize impacts to only those areas under construction.

Electrical (BP#04) bidders need to include in their pricing all costs not only to maintain power, lighting, and life safety systems within those portions of the building that are not under construction, but also to provide continuous power to all the temporary HVAC and exhaust systems for those areas. Again, how this is accomplished is left up to the bidder as a 'means and methods' option, including the possible use of generators for temporary power. Connecting and/or tapping into existing building systems or panels may be possible but cannot be guaranteed. In addition, please note:

- Utilize existing feeders for temporary power or provide a new temp feeder directly from the existing to remain unit-substation in the basement.
- The Metabolomics lab must remain on stand-by power. If the existing generator is removed prior to connecting the new electrical service, the existing generator may be relocated from the roof of the south wing to a temporary University approved location.

	<p>Each subcontractor will be responsible for keeping the temporary systems under their scope functioning as designed for the duration of the construction period, including regular maintenance of the equipment and required fuel. Relocation and/or modification of the temporary systems from phase to phase and removal of all temporary systems at the completion of the project must also be included in the bidder’s pricing.</p> <p>After a thorough investigation of the existing conditions, the successful proposers for Bid Package #s 1, 2, & 4 will be required to submit a Temporary Services Plan for the University’s approval prior to the start of any construction activities for each phase. This plan must be coordinated between all three bid packages and include all expected shutdowns and switchovers. Any disruptions of services/utilities must be communicated to and approved by the University at least one month prior so that the appropriate notifications can be issued, and the necessary arrangements made. If equipment is being replaced at the same location, the new piping and/or conduit and wiring systems must be installed before the existing systems are removed so that the shut-down/switch-over time is minimized. Please note that there are ongoing experiments in this building that could be compromised by any disruption in services/utilities, and all possible measures must be taken to ensure that that does not happen.</p>
114 - 117	Responses issued in previous Addenda.

- END OF ADDENDUM NO. 8 -

BID FORM

BID PACKAGE # 16 – RESILIENT FLOORING

FOR: BATCHELOR HALL RENEWAL
UNIVERSITY OF CALIFORNIA, RIVERSIDE
RIVERSIDE, CA

BID TO:	PLANNING, DESIGN, & CONSTRUCTION UNIVERSITY OF CALIFORNIA, RIVERSIDE 1223 UNIVERSITY AVE., RIVERSIDE, CA 92521 TELEPHONE: (951) 827-4590	PCL CONSTRUCTION SERVICES, INC. 655 N. CENTRAL AVE., SUITE 1600 GLENDALE, CA 91203 TELEPHONE: (818) 246-3481
----------------	--	---

BID FROM:

(Name of Bidder)

(Address)

(City) , *(State)* *(zip Code)*

(Telephone Number)

(Date Bid Submitted)

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

BIDDER'S NAME: _____

1.0 BIDDER'S REPRESENTATIONS

Bidder, represents that a) it, and all Subcontractors, regardless of tier, have 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; e) Bidder and all Subcontractors, regardless of tier, are currently registered with the California Department of Industrial Relations pursuant to California Labor Code Section 1725.5 and 1771.1. Bidder represents that the Key Personnel identified in its Prequalification submittal shall be the Bidder's personnel provided pursuant to the corresponding provisions of the contract, if the contract is awarded to the Bidder. Bidder further agrees that it will not withdraw its Bid within 60 days after the Bid Deadline, and that, if it is selected as the apparent lowest responsive and responsible Bidder, that it will, within 10 days after receipt of notice of selection, sign and deliver to University the Agreement in triplicate and furnish to University all items required by the Bidding Documents. If awarded the Contract, Bidder agrees to complete the proposed Work within **850** days after the date for commencement specified in the Notice to Proceed.

2.0 ADDENDA

Bidder acknowledges that it is Bidder's responsibility to ascertain whether any Addenda have been issued and if so, to obtain copies of such Addenda from University's Facility at the appropriate address stated on Page 1 of this Bid Form. Bidder therefore agrees to be bound by all Addenda that have been issued for this Bid.

3.0 CONTRACT SUM

The Contract Sum at time of award will be the total Contract Sum plus any Alternates selected by the University.

4.0 LUMP SUM BASE BID for BID PACKAGE # 16 'Resilient Flooring'

\$

--	--

 ,

--	--	--

 ,

--	--	--

 .

--	--

(Place figures in appropriate boxes.)

Bid amount must exclude costs for payment/performance bonds.

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 – **NOT USED**

8.0 ALTERNATES

<p>Alternate No. 1: NOT USED</p>	
<p>Alternate No. 2: NOT USED</p>	
<p>Alternate No. 3: Elevator Modernization Provide elevator modernization for Elevator # 1 as specified in 14 22 10. See Sheet I-600 for elevator flooring.</p>	<p>\$ <input type="text"/> <input type="text"/> , <input type="text"/> <input type="text"/> <input type="text"/> , <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/></p> <p>(Place figures in appropriate boxes.)</p>
<p>Alternate No. 4a: Card Readers at Exterior Doors Provide base Alternate scope for Level 1 and Level 2 doors (9 total).</p>	<p>\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p style="text-align: center;">NOT APPLICABLE TO THIS BID PACKAGE</p> <p>(Place figures in appropriate boxes.)</p>
<p>Alternate No. 4b: Card Readers at Exterior Doors Provide unit pricing for individual doors on Levels 3 & 4 (6 total) to be added as determined and selected individually by the University.</p>	<p>\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p style="text-align: center;">NOT APPLICABLE TO THIS BID PACKAGE</p> <p>(Place figures in appropriate boxes.)</p>
<p>Alternate No. 5: Fire Sprinkler Scope Provide as shown on the Fire Protection drawings F-10x-ALT series, and in accordance with specification section 21 10 00.</p>	<p>\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p style="text-align: center;">NOT APPLICABLE TO THIS BID PACKAGE</p> <p>(Place figures in appropriate boxes.)</p>

9.0 LIST OF SUBCONTRACTORS

Bidder will use Subcontractors for the work included in this bid (Bid Package # 16):

No Yes

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

UCR Batchelor Hall Renewal (UCR Project # 950464-950531)
University of California, Riverside

PCL Job No. 5221303
Addendum No. 8 – 3/16/21

subcontractor. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in its bid.

Portion of the Work Activity (e.g. Electrical, Mechanical, Concrete, etc.)	Subcontractor			
	Name of Business	Location of Business (City)	License No.	DIR Registration No.

(Note: Add additional pages if required.)

BIDDER'S NAME: _____

10.0 BIDDER INFORMATION

TYPE OF ORGANIZATION:

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

If a corporation, corporation is organized under the laws:

STATE OF: _____
(State)

NAME OF THE PRESIDENT OF THE CORPORATION:

(Insert Name)

NAME OF THE SECRETARY OF THE CORPORATION:

(Insert Name)

IF A PARTNERSHIP, NAMES AND TITLES OF PERSONS SIGNING THE BID ON BEHALF OF BIDDER AND ALL GENERAL PARTNERS:

PERSONS SIGNING ON BEHALF OF THE BIDDER:

(Insert Names and Titles)

ALL GENERAL PARTNERS:

(Insert Names)

CALIFORNIA CONTRACTORS LICENSE(S):

(Classification) _____
(License Number) _____
(Expiration Date)

UCR Batchelor Hall Renewal (UCR Project # 950464-950531)
University of California, Riverside

PCL Job No. 5221303
Addendum No. 8 – 3/16/21

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

BIDDER'S NAME: _____

11.0 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)

11.0 DECLARATION

I, _____ hereby declare that I am the
(Printed name)
_____ of _____
(Title) *(Name of Bidder)*

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

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

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

_____ *(Name of City if within a City, otherwise Name of County)*, in the State of _____,
on _____ *(Date)*.

(Signature)

UCR Batchelor Hall Renewal (UCR Project # 950464-950531)
University of California, Riverside

PCL Job No. 5221303
Addendum No. 8 – 3/16/21

- END BID FORM -

SCOPE OF WORK

Bid Package 16: Resilient Flooring

- I. Subcontractor shall provide all labor, materials, tools, supplies, equipment, services, facilities, supervision, and administration necessary for the proper and complete performance and acceptance of the work for the project, in accordance with the Construction Bid Documents, including drawings, specifications, project manual, exhibits, information available to bidders, and all applicable addenda.

- II. GENERAL SCOPE INCLUSIONS:
 1. Please note that this is a prevailing wage and Certified Payroll project. Certified payroll reports must be submitted with each payment application. Reference DIR Project ID 288824 for the UCR Batchelor Hall Renewal project.
 2. This is a Prevailing Wage project. Refer to Labor Compliance and Skilled & Trained Workforce requirements.
 3. All work to be performed per industry standards and in accordance with all Federal, State, and Local regulations. If there is a conflict or overlap in these regulations, the most stringent provisions will be applicable.
 4. Only products, materials, and/or equipment specified for use and/or substitutions approved by the Architect are to be furnished and/or installed. If the proposed “or equal” product is not accepted by the Architect, then subcontractor shall provide the specified material at no added cost.
 5. Subcontractor acknowledges that it has included in its pricing all of the items, components, accessories, fittings, etc. required to provide a complete, viable, and functional installation per industry standards, and provide an installation that is consistent with the design intent, even though the issued drawings and specifications may not necessarily include or indicate all of those items.
 6. Subcontractor acknowledges familiarity with the existing site conditions that may affect the performance of its scope-of-work.
 7. Layout, field measurements, and dimension verification as required for this scope.
 8. Compliance with Schedule, Delivery Milestones, Project Phasing Plan, and Work Sequence. Subcontractor to include all move-ins required for the performance of your scope-of-work and as requested by PCL.
 9. Provide traffic control, flagging, and safety barricades as required for your scope of work, i.e. move-in(s), material & equipment deliveries, etc.
 10. Delivery, unloading, hoisting, and distribution of all materials and equipment to work areas. Provide traffic control and/or flagging (as required) for deliveries related to this scope-of-work. All rigging is to be by subcontractor for own work.

11. Subcontractor shall, to the best of its ability, try to keep damage to existing walls, ceilings, floors, and other finished surfaces to a minimum. Protect all adjacent surfaces that may be affected during the course of the performance of this scope-of-work.
12. Subcontractor has included all parking costs for its employees. Reference University's website for parking rates and fees. Subcontractor will be responsible for any increases in parking rates during the duration of the project.
13. No cords or portable power distribution boxes will be allowed on the ground and/or floor. All cords need to be suspended overhead. Coordinate with PCL Superintendent.
14. No light strings will be allowed on site. Coordinate with PCL Superintendent for all lighting requirements.
15. Subcontractor must use the restroom facilities provided by, or designated by, *PCL*. Any worker that uses restroom facilities other than those designated for construction use will be subject to immediate removal from the site, and the cleaning of the facilities will be automatically backcharged to that worker's employer.
16. All taxes, permits, fees, and licenses applicable to this work.
17. Subcontractor is responsible for its own access (including for inspection purposes) to its work. All scaffolds, ladders, manlifts, etc. must comply with OSHA regulations and are subject to *PCL* inspection and approval.
18. Daily clean-up of work and break areas. No trash will be allowed on the ground. All Subcontractors must provide their own trash cans and brooms for daily clean-up.
19. Dust and noise control / mitigation for own work. Include ventilation and associated equipment as needed.
20. Hoisting for own work. PCL will not have a crane or forklift onsite.
21. Subcontractor to provide PCL with a copy of all required safety documentation when requested. All subcontractor workers must go through a thorough job-specific orientation prior to starting work on-site.
22. All subcontractor personnel will be required to adhere to CDC, County, and State COVID-19 guidelines, including wearing face coverings at all times while on the jobsite and physical distancing whenever possible. Temperature checks and health surveys may be required before access to the site is granted.
23. Subcontractor to provide PCL with a copy of its Quality Assurance / Quality Control Plan prior to the start of work on site. If one does not currently exist, Subcontractor shall request a Quality Plan template from PCL and modify it to suit the requirements of its scope-of-work on this project.
24. Subcontractors are to include all forecasts for material and labor escalation throughout project duration. Subcontractors will be required to provide lead times on materials and state (in writing) whether the COVID-19 situation is expected to have impacts on material or equipment lead times.
25. Include costs for electronic tablet, current document will be available via electronic plan table and tablet.

26. Only electric powered equipment/tools allowed inside building, no gas or diesel-powered equipment/tools allowed.
27. Multiple shift and overtime performance of work is included if required to complete Subcontractor's scope of work within the duration required by the construction schedule. All premiums associated with overtime, night shifts, multiple shift work is included in the Subcontract price.
28. Standard working hours will be 7:00am - 9:00pm, Monday thru Friday; All weekend work (Saturday & Sunday) must be approved by PCL and the Owner at least seventy-two (72) hours prior to start.
29. Provide all shop drawings, calculations, stamped drawings, etc. per Specifications within ten (14) days of receipt of a Subcontract Agreement from PCL. Provide all other submittals (i.e. product data, samples, color charts, etc.) within ten (10) days of receipt of a Subcontract Agreement.
30. Provide all closeout requirements, including warranties, owner training, attic stock, and O&M manuals as required in the bid documents, ten (10) days prior to scheduled completion of each phase.
31. At or before the end of each month, Subcontractor shall submit to PCL an itemized Application for Payment for the cost of the work in permanent place, as approved by the University's representative, which has been completed in accordance with the contract documents (less amounts previously paid). Coordinate with PCL's Project Accountant for the required forms. Retention (5%) must be itemized on the application.
32. Only products, materials, and/or equipment specified for use and/or substitutions approved by the Architect are to be furnished and/or installed. If the proposed "or equal" product is not accepted by the Architect, then subcontractor shall provide the specified material at no added cost.
33. Phased construction as indicated on the bid documents. Each phase must be completed, tested, commissioned, and fully operational per the dates shown on the included preliminary schedule.
34. Textura Fees – Subcontract (SC) Value & Fee
 - a. \$0-\$1,704,543.17: 0.22% of SC
 - b. \$1,704,543.18 or Greater: \$3750.
35. Information on the other Bid Packages is available within this Bid Documents folder. Please review the Scope of Work sheets for bid packages related to the one you are bidding on to make sure that there are no overlaps or gaps. Please note that if the item of work is described in a specification section listed as part of this bid package, then it is included in your scope.

III. SPECIFIC SCOPE INCLUSIONS:

1. All work to be in accordance with the plans, information available to bidders, and the following specification sections (as applicable):

- i. Division 01 – Bidding, Contracting and General Requirements
 - ii. Division 09 – Finishes, 096516 ‘Resilient Sheet Flooring’.
2. Subcontractor will be responsible for demolishing and/or removing and hauling off-site any and all existing items related to this scope-of work that are not indicated on the ‘Demolition’ drawings.
 3. Provide all documentation required for LEED.
 4. Patch repair and match existing flooring for any construction damage done to flooring per Architectural drawings.
 5. Furnish and install resilient flooring and base to match existing where demolition occurs.

IV. SPECIFIC EXCLUSIONS:

None.

V. CLARIFICATIONS:

None.

VI. UNIT PRICES:

None.

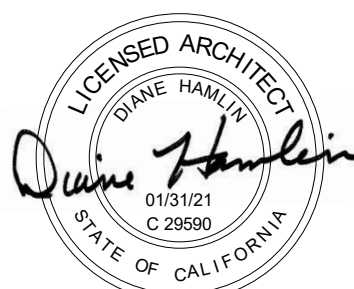
VII. ALTERNATES:

1. **Furnish and install flooring at Elevator No. 1 cab per Room Finish Schedule on sheet I-600 (Addendum No. 8, 3/16/21). Include demolition/removal and haul-off of existing elevator cab flooring.**

VIII. ALLOWANCES:

None.

- END BP#16 SCOPE OF WORK -



950464

University of
California Riverside
Batchelor Hall -
Building Systems
Renewal

900 University Ave.
Riverside, CA 92507

Project Manager
Project Architect
Structural Engineer
Mechanical Engineer
Electrical Engineer
Interior Designer
Laboratory Planner

Diane Hamlin
Zhi Wei
Vartan Chilingaryan
James Wermes
Kelly Harshorn
Robby Therp
Ken Filar

MARK	DATE	DESCRIPTION
	7/8/20	ALTERNATE SCOPE DEFINITION
	8/28/20	BUILDING DEPT BACKCHECK
	10/16/20	BID SET
A	3/15/21	BID ADDENDUM #8

Project Number
Original Issue

10044183
12/29/2019

UCR Project Manager:

Blythe Wilson

Scale:	Author	-% CD Approval: ---
Checked By:	Checker	-% CD Approval: ---
Project Number:	10044183	Construction
DSA Number:	---	Release: ---

Sheet Name

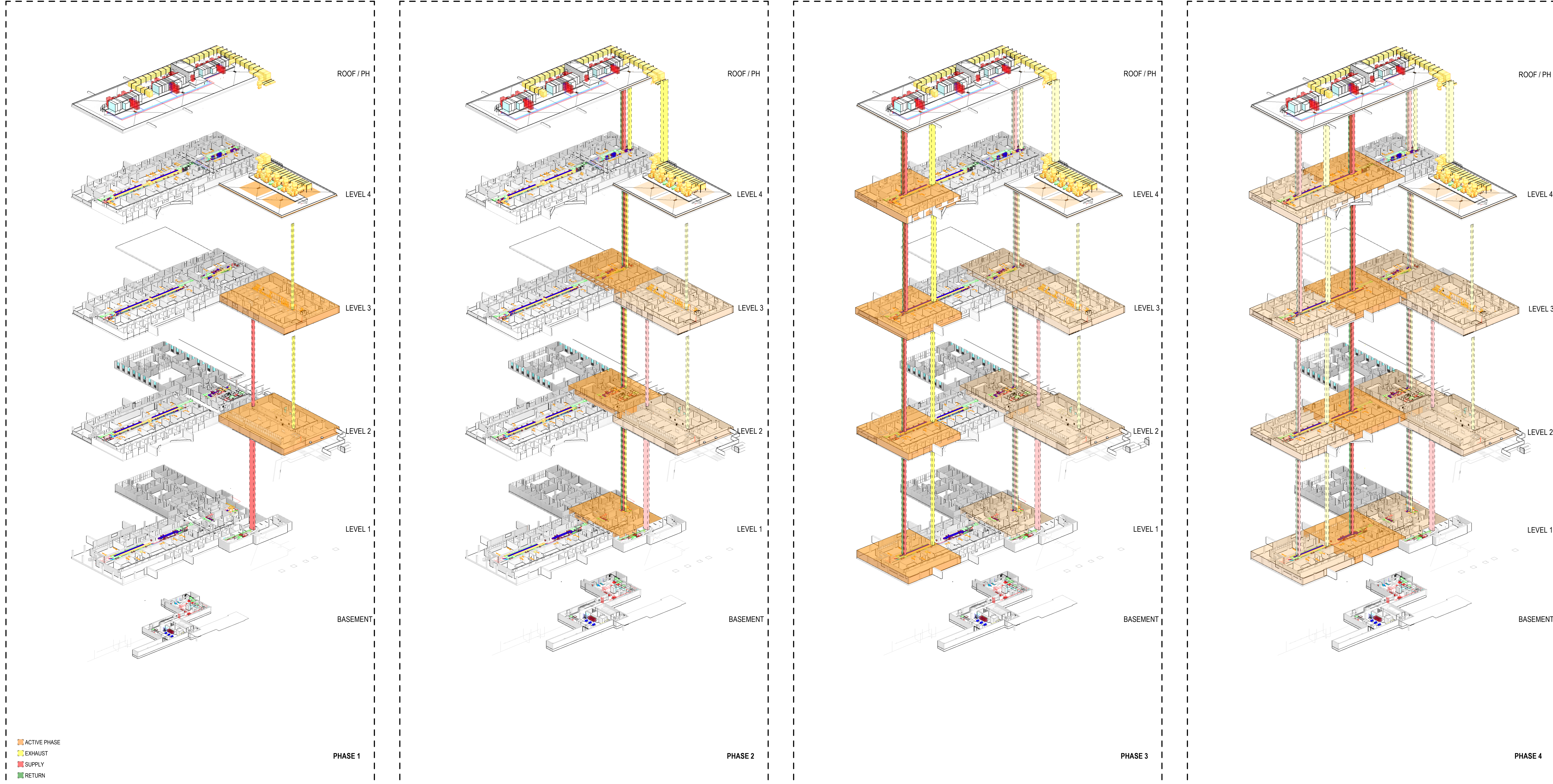
CONCEPTUAL PHASING
AXONS DIAGRAMS &
NARRATIVE

Sheet Number

G-201

Project Status

BID SET



PHASING NOTES:

TEMPORARY SYSTEMS REQUIRED TO MAINTAIN THE USABILITY OF AREAS THAT ARE NOT UNDER CONSTRUCTION OR AREAS SPECIFIED TO REMAIN FULLY OPERATIONAL ARE PART OF THE SCOPE OF THIS PROJECT. WHEN ONE PORTION OF THE BUILDING (ONE PHASE) IS SHUT-DOWN FOR CONSTRUCTION, THE POWER, LIGHTING, HVAC, AND PLUMBING SYSTEMS TO THE REMAINING PORTIONS OF THE BUILDING THAT ARE NOT UNDER CONSTRUCTION MUST BE KEPT CONTINUALLY FUNCTIONING AT PRE-CONSTRUCTION LEVELS, WITHOUT ANY DEGRADATION TO THESE SERVICES.

GENERAL:

1. KEEN HALL (NORTH WING) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED AND COORDINATED SHUTDOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY DURING THE CONSTRUCTION PROCESS.
2. THE METABOLOMICS LABS (2ND LEVEL, AREA 'B', SOUTH WING BETWEEN GRID LINES 9 - 15 AND C - A), INCLUDING ROOMS 2203, 2205, 2207, 2211A-C, 2215, 2216B AND 216A PER C-202) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY. CONTRACTORS WILL BE REQUIRED TO PROVIDE TEMPORARY SERVICES FOR SHUTDOWNS EXCEEDING 4 HOURS IN DURATION.
3. UPON COMPLETION OF ROOM 2163 IT SHALL ALSO REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS.
4. LIFE SAFETY EGRESS LIGHTING MUST BE OPERATIONAL PRIOR TO THE DEMOLITION OF THE GENERATOR ON THE SOUTH WING ROOF.
5. ALL COORDINATED SHUTDOWNS MUST HAVE MOP SHUTDOWN SUBMITTED AND APPROVED A MINIMUM OF 30 DAYS IN ADVANCE OF REQUESTED DATE.
6. AT THE BEGINNING OF CONSTRUCTION THERE WILL BE A COORDINATION PHASE WHICH WILL DETERMINE WHAT THE EXACT PHASING AND SHUTDOWN PLAN WILL BE.
7. ELECTRICAL SUBS ARE TO ASSUME THEY WILL WORK WITH THE MECHANICAL CONTRACTOR TO PROVIDE TEMPORARY POWER WHERE NEEDED.
8. SIZING OF TEMPORARY SYSTEMS SHALL BE BASED ON PROPOSED SYSTEM OR EXISTING SYSTEM WHICH EVER IS GREATER.

MECHANICAL:

1. KEEN HALL (NORTH WING) AIR HANDLERS WITHIN THE BASEMENT MUST REMAIN FULLY OPERATIONAL AND SCHEDULED SHUTDOWNS ALIGNED.
2. MAKEUP AIR FROM THE BASEMENT INTO THE WEST WING CHASE MUST REMAIN IN OPERATION AT ALL TIMES UNTIL EACH PHASE NEW AIR HANDLERS ARE ENABLED, EXCEPT FOR SCHEDULED SHUTDOWNS DURING THE CONSTRUCTION PROCESS.
3. MAKEUP AIR FOR THE SOUTH WING MUST REMAIN IN OPERATION AT ALL TIMES TO SUPPORT METABOLOMICS LABS AND SCHEDULED SHUTDOWNS ALIGNED.
4. ACTIVE FUME HOODS MUST REMAIN IN OPERATION AND PERFORM PER SPECIFICATIONS AT ALL TIMES.
 - a. ANY MODIFICATIONS TO FUME HOODS AND RELATED EXHAUSTS WILL REQUIRE PRE AND POST FUME HOOD TESTING AND RECERTIFICATION WILL BE REQUIRED AND WILL BE COORDINATED WITH UCR EH&S.
 - b. FLEXIBLE DUCTING MAY BE UTILIZED FOR TEMPORARY CONDITIONS (6 - 9 MONTHS MAXIMUM) IN ORDER TO FACILITATE ROOF WORK AND NEW EXHAUST FANS.
 - a. FLEXIBLE DUCTING SHALL BE CHEMICAL RESISTANT: PTFE, HYALON, OR EQUAL TO PROVIDE CHEMICAL RESISTANCE SPECIFICALLY FOR CHEMICAL FUME HOOD EXHAUST.
 - b. AT CONTRACTORS OPTION RIGID OR FLEX TYPE 1 PVC TEMPORARY DUCTING MAY BE UTILIZED.
 - c. NEGATIVE PRESSURE REQUIREMENTS TO ALIGN WITH TEMPORARY FAN PERFORMANCE

CONCEPTUAL PHASING DIAGRAM NOTES:

THE REPLACEMENT OF THE BUILDING INFRASTRUCTURE MUST MINIMIZE THE QUANTITY AND LENGTH OF OUTAGES AS THE BUILDING WILL REMAIN IN OPERATION THROUGHOUT THE RENOVATIONS. THE PHASING OF EACH DISCIPLINE SCOPE MUST ALSO ACCOMMODATE THE PHASING FOR ALL OTHER SCOPE.

THE FOLLOWING IS NOT INTENDED TO PROVIDE AN ALL-ENCOMPASSING PHASING PLAN BUT RATHER A GENERAL APPROACH THAT WILL NEED SIGNIFICANT DETAIL COORDINATED WITH THE ACTUAL FIELD CONDITIONS AND PHASING PLANS OF ALL DISCIPLINES.

ALL WORK MUST PROVIDE TEMPORARY UTILITIES FOR DURATIONS WHICH ARE DEEMED UNACCEPTABLE BY THE UNIVERSITY.

ARCHITECTURAL AND STRUCTURAL SCOPE TO BE COORDINATED WITH THE OWNER AND COMPLETED AS REQUIRED WITHIN EACH PHASE. FOR SCOPE THAT IS NOT PHASE DEPENDENT SUCH AS STAIR MODIFICATIONS, CONTRACTOR SHALL COORDINATE WITH CAMPUS FIRE MARSHAL AND OWNER FOR REQUIRED WORK.

PHASE 0

MECHANICAL (BASEMENT LEVEL):

- REPLACE EXISTING CHILLED WATER PUMPING, AND THE STEAM / HEATING WATER SYSTEM IN ORDER TO FACILITATE THE NEW AIR HANDLERS IN LATER PHASES.
- REPLACE EXISTING STEAM-TO-WATER HEATING HOT WATER HEAT EXCHANGERS(S).
- RECONFIGURE CHILLED WATER PUMPING/PIPPING FROM PULL THROUGH TO PUSH THROUGH.
- INSTALL NEW PIPING MAINS FOR RE-FEED OF EXISTING AHUS.
- PROVIDE ANY TEMPORARY CHILLED WATER HEATING HOT WATER GENERATION AND PUMPING TO EXISTING DISTRIBUTION MAINS.

PHASE 1

ELECTRICAL (MECHANICAL LOADS IN BASEMENT REPLACED):

- INSTALL NEW 480/277 SERVICE AND DISTRIBUTION BOARD IN THE BASEMENT.
- PROVIDE NEW FEEDS TO THE MECHANICAL PHASE 1 LOADS.

MECHANICAL:

ROOF LEVEL:

- REMOVE EXISTING EXHAUST FANS WITHIN THE PENTHOUSE AND ASSOCIATED DUCTING WITHIN THE CORE.
- INSTALL NEW EXHAUST FANS ON THE ROOF, AND NEW DUCTING/DEVICES WITHIN THE CORE RECONNECTING TO EXISTING.
- INSTALL NEW DUCTING HEADERS ON THE ROOF.
- PROVIDE ANY TEMPORARY EXHAUST SYSTEMS TO THE EXISTING DISTRIBUTION MAINS.

ELECTRICAL:

1. UTILIZE EXISTING FEEDERS FOR TEMPORARY POWER OR PROVIDE A NEW TEMP FEEDER DIRECTLY FROM THE EXISTING TO REMAIN UNIT-SUBSTATION IN THE BASEMENT.
2. THE METABOLOMICS LAB MUST REMAIN ON STAND-BY POWER. IF THE EXISTING GENERATOR IS REMOVED PRIOR TO CONNECTING THE NEW ELECTRICAL SERVICE, THE EXISTING GENERATOR MAY BE RELOCATED FROM THE ROOF OF THE SOUTH WING TO A TEMPORARY UNIVERSITY APPROVED LOCATION.

PHASING NOTES:

TEMPORARY SYSTEMS REQUIRED TO MAINTAIN THE USABILITY OF AREAS THAT ARE NOT UNDER CONSTRUCTION OR AREAS SPECIFIED TO REMAIN FULLY OPERATIONAL ARE PART OF THE SCOPE OF THIS PROJECT. WHEN ONE PORTION OF THE BUILDING (ONE PHASE) IS SHUT-DOWN FOR CONSTRUCTION, THE POWER, LIGHTING, HVAC, AND PLUMBING SYSTEMS TO THE REMAINING PORTIONS OF THE BUILDING THAT ARE NOT UNDER CONSTRUCTION MUST BE KEPT CONTINUALLY FUNCTIONING AT PRE-CONSTRUCTION LEVELS, WITHOUT ANY DEGRADATION TO THESE SERVICES.

GENERAL:

1. KEEN HALL (NORTH WING) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED AND COORDINATED SHUTDOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY DURING THE CONSTRUCTION PROCESS.
2. THE METABOLOMICS LABS (2ND LEVEL, AREA 'B', SOUTH WING BETWEEN GRID LINES 9 - 15 AND C - A), INCLUDING ROOMS 2203, 2205, 2207, 2211A-C, 2215, 2216B AND 216A PER C-202) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY. CONTRACTORS WILL BE REQUIRED TO PROVIDE TEMPORARY SERVICES FOR SHUTDOWNS EXCEEDING 4 HOURS IN DURATION.
3. UPON COMPLETION OF ROOM 2163 IT SHALL ALSO REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS.
4. LIFE SAFETY EGRESS LIGHTING MUST BE OPERATIONAL PRIOR TO THE DEMOLITION OF THE GENERATOR ON THE SOUTH WING ROOF.
5. ALL COORDINATED SHUTDOWNS MUST HAVE MOP SHUTDOWN SUBMITTED AND APPROVED A MINIMUM OF 30 DAYS IN ADVANCE OF REQUESTED DATE.
6. AT THE BEGINNING OF CONSTRUCTION THERE WILL BE A COORDINATION PHASE WHICH WILL DETERMINE WHAT THE EXACT PHASING AND SHUTDOWN PLAN WILL BE.
7. ELECTRICAL SUBS ARE TO ASSUME THEY WILL WORK WITH THE MECHANICAL CONTRACTOR TO PROVIDE TEMPORARY POWER WHERE NEEDED.
8. SIZING OF TEMPORARY SYSTEMS SHALL BE BASED ON PROPOSED SYSTEM OR EXISTING SYSTEM WHICH EVER IS GREATER.

MECHANICAL:

1. KEEN HALL (NORTH WING) AIR HANDLERS WITHIN THE BASEMENT MUST REMAIN FULLY OPERATIONAL AND SCHEDULED SHUTDOWNS ALIGNED.
2. MAKEUP AIR FROM THE BASEMENT INTO THE WEST WING CHASE MUST REMAIN IN OPERATION AT ALL TIMES UNTIL EACH PHASE NEW AIR HANDLERS ARE ENABLED, EXCEPT FOR SCHEDULED SHUTDOWNS DURING THE CONSTRUCTION PROCESS.
3. MAKEUP AIR FOR THE SOUTH WING MUST REMAIN IN OPERATION AT ALL TIMES TO SUPPORT METABOLOMICS LABS AND SCHEDULED SHUTDOWNS ALIGNED.
4. ACTIVE FUME HOODS MUST REMAIN IN OPERATION AND PERFORM PER SPECIFICATIONS AT ALL TIMES.
 - a. ANY MODIFICATIONS TO FUME HOODS AND RELATED EXHAUSTS WILL REQUIRE PRE AND POST FUME HOOD TESTING AND RECERTIFICATION WILL BE REQUIRED AND WILL BE COORDINATED WITH UCR EH&S.
 - b. FLEXIBLE DUCTING MAY BE UTILIZED FOR TEMPORARY CONDITIONS (6 - 9 MONTHS MAXIMUM) IN ORDER TO FACILITATE ROOF WORK AND NEW EXHAUST FANS.
 - a. FLEXIBLE DUCTING SHALL BE CHEMICAL RESISTANT: PTFE, HYALON, OR EQUAL TO PROVIDE CHEMICAL RESISTANCE SPECIFICALLY FOR CHEMICAL FUME HOOD EXHAUST.
 - b. AT CONTRACTORS OPTION RIGID OR FLEX TYPE 1 PVC TEMPORARY DUCTING MAY BE UTILIZED.
 - c. NEGATIVE PRESSURE REQUIREMENTS TO ALIGN WITH TEMPORARY FAN PERFORMANCE

PHASING NOTES:

TEMPORARY SYSTEMS REQUIRED TO MAINTAIN THE USABILITY OF AREAS THAT ARE NOT UNDER CONSTRUCTION OR AREAS SPECIFIED TO REMAIN FULLY OPERATIONAL ARE PART OF THE SCOPE OF THIS PROJECT. WHEN ONE PORTION OF THE BUILDING (ONE PHASE) IS SHUT-DOWN FOR CONSTRUCTION, THE POWER, LIGHTING, HVAC, AND PLUMBING SYSTEMS TO THE REMAINING PORTIONS OF THE BUILDING THAT ARE NOT UNDER CONSTRUCTION MUST BE KEPT CONTINUALLY FUNCTIONING AT PRE-CONSTRUCTION LEVELS, WITHOUT ANY DEGRADATION TO THESE SERVICES.

GENERAL:

1. KEEN HALL (NORTH WING) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED AND COORDINATED SHUTDOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY DURING THE CONSTRUCTION PROCESS.
2. THE METABOLOMICS LABS (2ND LEVEL, AREA 'B', SOUTH WING BETWEEN GRID LINES 9 - 15 AND C - A), INCLUDING ROOMS 2203, 2205, 2207, 2211A-C, 2215, 2216B AND 216A PER C-202) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY. CONTRACTORS WILL BE REQUIRED TO PROVIDE TEMPORARY SERVICES FOR SHUTDOWNS EXCEEDING 4 HOURS IN DURATION.
3. UPON COMPLETION OF ROOM 2163 IT SHALL ALSO REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS.
4. LIFE SAFETY EGRESS LIGHTING MUST BE OPERATIONAL PRIOR TO THE DEMOLITION OF THE GENERATOR ON THE SOUTH WING ROOF.
5. ALL COORDINATED SHUTDOWNS MUST HAVE MOP SHUTDOWN SUBMITTED AND APPROVED A MINIMUM OF 30 DAYS IN ADVANCE OF REQUESTED DATE.
6. AT THE BEGINNING OF CONSTRUCTION THERE WILL BE A COORDINATION PHASE WHICH WILL DETERMINE WHAT THE EXACT PHASING AND SHUTDOWN PLAN WILL BE.
7. ELECTRICAL SUBS ARE TO ASSUME THEY WILL WORK WITH THE MECHANICAL CONTRACTOR TO PROVIDE TEMPORARY POWER WHERE NEEDED.
8. SIZING OF TEMPORARY SYSTEMS SHALL BE BASED ON PROPOSED SYSTEM OR EXISTING SYSTEM WHICH EVER IS GREATER.

MECHANICAL:

1. KEEN HALL (NORTH WING) AIR HANDLERS WITHIN THE BASEMENT MUST REMAIN FULLY OPERATIONAL AND SCHEDULED SHUTDOWNS ALIGNED.
2. MAKEUP AIR FROM THE BASEMENT INTO THE WEST WING CHASE MUST REMAIN IN OPERATION AT ALL TIMES UNTIL EACH PHASE NEW AIR HANDLERS ARE ENABLED, EXCEPT FOR SCHEDULED SHUTDOWNS DURING THE CONSTRUCTION PROCESS.
3. MAKEUP AIR FOR THE SOUTH WING MUST REMAIN IN OPERATION AT ALL TIMES TO SUPPORT METABOLOMICS LABS AND SCHEDULED SHUTDOWNS ALIGNED.
4. ACTIVE FUME HOODS MUST REMAIN IN OPERATION AND PERFORM PER SPECIFICATIONS AT ALL TIMES.
 - a. ANY MODIFICATIONS TO FUME HOODS AND RELATED EXHAUSTS WILL REQUIRE PRE AND POST FUME HOOD TESTING AND RECERTIFICATION WILL BE REQUIRED AND WILL BE COORDINATED WITH UCR EH&S.
 - b. FLEXIBLE DUCTING MAY BE UTILIZED FOR TEMPORARY CONDITIONS (6 - 9 MONTHS MAXIMUM) IN ORDER TO FACILITATE ROOF WORK AND NEW EXHAUST FANS.
 - a. FLEXIBLE DUCTING SHALL BE CHEMICAL RESISTANT: PTFE, HYALON, OR EQUAL TO PROVIDE CHEMICAL RESISTANCE SPECIFICALLY FOR CHEMICAL FUME HOOD EXHAUST.
 - b. AT CONTRACTORS OPTION RIGID OR FLEX TYPE 1 PVC TEMPORARY DUCTING MAY BE UTILIZED.
 - c. NEGATIVE PRESSURE REQUIREMENTS TO ALIGN WITH TEMPORARY FAN PERFORMANCE

PHASING NOTES:

TEMPORARY SYSTEMS REQUIRED TO MAINTAIN THE USABILITY OF AREAS THAT ARE NOT UNDER CONSTRUCTION OR AREAS SPECIFIED TO REMAIN FULLY OPERATIONAL ARE PART OF THE SCOPE OF THIS PROJECT. WHEN ONE PORTION OF THE BUILDING (ONE PHASE) IS SHUT-DOWN FOR CONSTRUCTION, THE POWER, LIGHTING, HVAC, AND PLUMBING SYSTEMS TO THE REMAINING PORTIONS OF THE BUILDING THAT ARE NOT UNDER CONSTRUCTION MUST BE KEPT CONTINUALLY FUNCTIONING AT PRE-CONSTRUCTION LEVELS, WITHOUT ANY DEGRADATION TO THESE SERVICES.

GENERAL:

1. KEEN HALL (NORTH WING) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED AND COORDINATED SHUTDOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY DURING THE CONSTRUCTION PROCESS.
2. THE METABOLOMICS LABS (2ND LEVEL, AREA 'B', SOUTH WING BETWEEN GRID LINES 9 - 15 AND C - A), INCLUDING ROOMS 2203, 2205, 2207, 2211A-C, 2215, 2216B AND 216A PER C-202) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY. CONTRACTORS WILL BE REQUIRED TO PROVIDE TEMPORARY SERVICES FOR SHUTDOWNS EXCEEDING 4 HOURS IN DURATION.
3. UPON COMPLETION OF ROOM 2163 IT SHALL ALSO REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS.
4. LIFE SAFETY EGRESS LIGHTING MUST BE OPERATIONAL PRIOR TO THE DEMOLITION OF THE GENERATOR ON THE SOUTH WING ROOF.
5. ALL COORDINATED SHUTDOWNS MUST HAVE MOP SHUTDOWN SUBMITTED AND APPROVED A MINIMUM OF 30 DAYS IN ADVANCE OF REQUESTED DATE.
6. AT THE BEGINNING OF CONSTRUCTION THERE WILL BE A COORDINATION PHASE WHICH WILL DETERMINE WHAT THE EXACT PHASING AND SHUTDOWN PLAN WILL BE.
7. ELECTRICAL SUBS ARE TO ASSUME THEY WILL WORK WITH THE MECHANICAL CONTRACTOR TO PROVIDE TEMPORARY POWER WHERE NEEDED.
8. SIZING OF TEMPORARY SYSTEMS SHALL BE BASED ON PROPOSED SYSTEM OR EXISTING SYSTEM WHICH EVER IS GREATER.

MECHANICAL:

1. KEEN HALL (NORTH WING) AIR HANDLERS WITHIN THE BASEMENT MUST REMAIN FULLY OPERATIONAL AND SCHEDULED SHUTDOWNS ALIGNED.
2. MAKEUP AIR FROM THE BASEMENT INTO THE WEST WING CHASE MUST REMAIN IN OPERATION AT ALL TIMES UNTIL EACH PHASE NEW AIR HANDLERS ARE ENABLED, EXCEPT FOR SCHEDULED SHUTDOWNS DURING THE CONSTRUCTION PROCESS.
3. MAKEUP AIR FOR THE SOUTH WING MUST REMAIN IN OPERATION AT ALL TIMES TO SUPPORT METABOLOMICS LABS AND SCHEDULED SHUTDOWNS ALIGNED.
4. ACTIVE FUME HOODS MUST REMAIN IN OPERATION AND PERFORM PER SPECIFICATIONS AT ALL TIMES.
 - a. ANY MODIFICATIONS TO FUME HOODS AND RELATED EXHAUSTS WILL REQUIRE PRE AND POST FUME HOOD TESTING AND RECERTIFICATION WILL BE REQUIRED AND WILL BE COORDINATED WITH UCR EH&S.
 - b. FLEXIBLE DUCTING MAY BE UTILIZED FOR TEMPORARY CONDITIONS (6 - 9 MONTHS MAXIMUM) IN ORDER TO FACILITATE ROOF WORK AND NEW EXHAUST FANS.
 - a. FLEXIBLE DUCTING SHALL BE CHEMICAL RESISTANT: PTFE, HYALON, OR EQUAL TO PROVIDE CHEMICAL RESISTANCE SPECIFICALLY FOR CHEMICAL FUME HOOD EXHAUST.
 - b. AT CONTRACTORS OPTION RIGID OR FLEX TYPE 1 PVC TEMPORARY DUCTING MAY BE UTILIZED.
 - c. NEGATIVE PRESSURE REQUIREMENTS TO ALIGN WITH TEMPORARY FAN PERFORMANCE

PHASING NOTES:

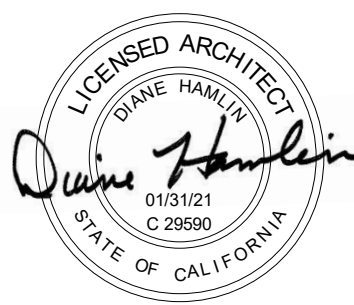
TEMPORARY SYSTEMS REQUIRED TO MAINTAIN THE USABILITY OF AREAS THAT ARE NOT UNDER CONSTRUCTION OR AREAS SPECIFIED TO REMAIN FULLY OPERATIONAL ARE PART OF THE SCOPE OF THIS PROJECT. WHEN ONE PORTION OF THE BUILDING (ONE PHASE) IS SHUT-DOWN FOR CONSTRUCTION, THE POWER, LIGHTING, HVAC, AND PLUMBING SYSTEMS TO THE REMAINING PORTIONS OF THE BUILDING THAT ARE NOT UNDER CONSTRUCTION MUST BE KEPT CONTINUALLY FUNCTIONING AT PRE-CONSTRUCTION LEVELS, WITHOUT ANY DEGRADATION TO THESE SERVICES.

GENERAL:

1. KEEN HALL (NORTH WING) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED AND COORDINATED SHUTDOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY DURING THE CONSTRUCTION PROCESS.
2. THE METABOLOMICS LABS (2ND LEVEL, AREA 'B', SOUTH WING BETWEEN GRID LINES 9 - 15 AND C - A), INCLUDING ROOMS 2203, 2205, 2207, 2211A-C, 2215, 2216B AND 216A PER C-202) MUST REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE UNIVERSITY. CONTRACTORS WILL BE REQUIRED TO PROVIDE TEMPORARY SERVICES FOR SHUTDOWNS EXCEEDING 4 HOURS IN DURATION.
3. UPON COMPLETION OF ROOM 2163 IT SHALL ALSO REMAIN FULLY OPERATIONAL EXCEPT FOR SCHEDULED SHUT DOWNS.
4. LIFE SAFETY EGRESS LIGHTING MUST BE OPERATIONAL PRIOR TO THE DEMOLITION OF THE GENERATOR ON THE SOUTH WING ROOF.
5. ALL COORDINATED SHUTDOWNS MUST HAVE MOP SHUTDOWN SUBMITTED AND APPROVED A MINIMUM OF 30 DAYS IN ADVANCE OF REQUESTED DATE.
6. AT THE BEGINNING OF CONSTRUCTION THERE WILL BE A COORDINATION PHASE WHICH WILL DETERMINE WHAT THE EXACT PHASING AND SHUTDOWN PLAN WILL BE.
7. ELECTRICAL SUBS ARE TO ASSUME THEY WILL WORK WITH THE MECHANICAL CONTRACTOR TO PROVIDE TEMPORARY POWER WHERE NEEDED.
8. SIZING OF TEMPORARY SYSTEMS SHALL BE BASED ON PROPOSED SYSTEM OR EXISTING SYSTEM WHICH EVER IS GREATER.

MECHANICAL:

1. KEEN HALL (NORTH WING) AIR HANDLERS WITHIN THE BASEMENT MUST REMAIN FULLY OPERATIONAL AND SCHEDULED SHUTDOWNS ALIGNED.
2. MAKEUP AIR FROM THE BASEMENT INTO THE WEST WING CHASE MUST REMAIN IN OPERATION AT ALL TIMES UNTIL EACH PHASE NEW AIR HANDLERS ARE ENABLED, EXCEPT FOR SCHEDULED SHUTDOWNS DURING THE CONSTRUCTION PROCESS.
3. MAKEUP AIR FOR THE SOUTH WING MUST REMAIN IN OPERATION AT ALL TIMES TO SUPPORT METABOLOMICS LABS AND SCHEDULED SHUTDOWNS ALIGNED.
4. ACTIVE FUME HOODS MUST REMAIN IN OPERATION AND PERFORM PER SPECIFICATIONS AT ALL TIMES.
 - a. ANY MODIFICATIONS TO FUME HOODS AND RELATED EXHAUSTS WILL REQUIRE PRE AND POST FUME HOOD TESTING AND RECERTIFICATION WILL BE REQUIRED AND WILL BE COORDINATED WITH UCR EH&S.
 - b. FLEXIBLE DUCTING MAY BE UTILIZED FOR TEMPORARY CONDITIONS (6 - 9 MONTHS MAXIMUM) IN ORDER TO FACILITATE ROOF WORK AND NEW EXHAUST FANS.
 - a. FLEXIBLE DUCTING SHALL BE CHEMICAL RESISTANT: PTFE, HYALON, OR EQUAL TO PROVIDE CHEMICAL RESISTANCE SPECIFICALLY FOR CHEMICAL FUME HOOD EXHAUST.
 - b. AT CONTRACTORS OPTION RIGID OR FLEX TYPE 1 PVC TEMPORARY DUCTING MAY BE UTILIZED.
 - c. NEGATIVE PRESSURE REQUIREMENTS TO ALIGN WITH TEMPORARY FAN PERFORMANCE



950464

University of
California Riverside
Batchelor Hall -
Building Systems
Renewal

900 University Ave.
Riverside, CA 92507

Project Manager Diane Hamlin
Project Architect Zhi Wei
Structural Engineer Vartan Chilingaryan
Mechanical Engineer James Wermes
Electrical Engineer Kelly Harthorn
Interior Designer Ruby Therp
Laboratory Planner Ken Filar

MARK	DATE	DESCRIPTION
	7/8/20	ALTERNATE SCOPE DEFINITION
	8/28/20	BUILDING DEPT BACKCHECK
	10/16/20	BID SET
A	3/15/21	BID ADDENDUM #8

Project Number 10044183
Original Issue 12/29/2019

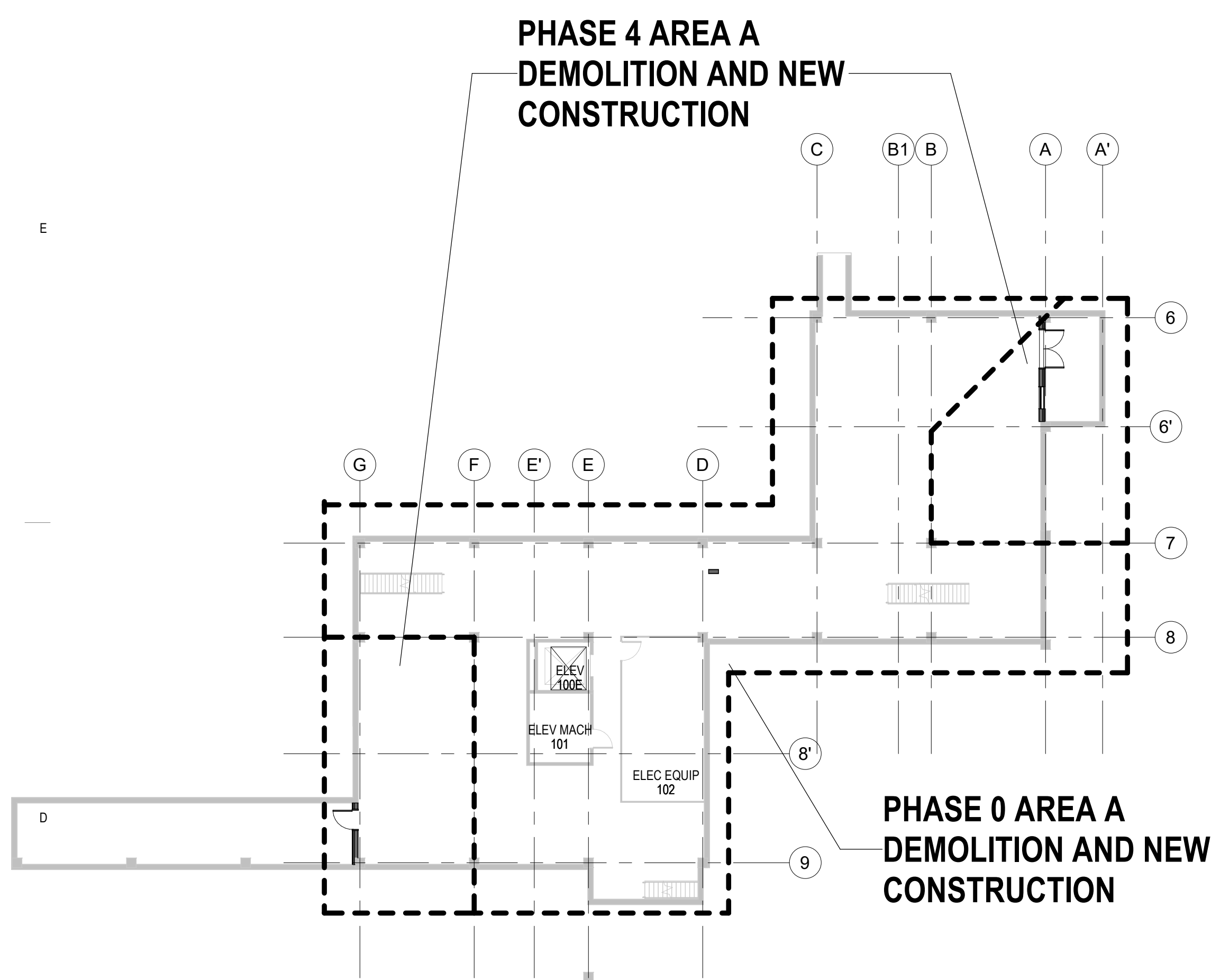
UCR Project Manager: Blythe Wilson

Scale: ---
Drawn By: Author ---% CD Approval: ---
Checked By: Checker ---% CD Approval: ---
Project Number: 10044183 Construction
DSA Number: --- Release: ---

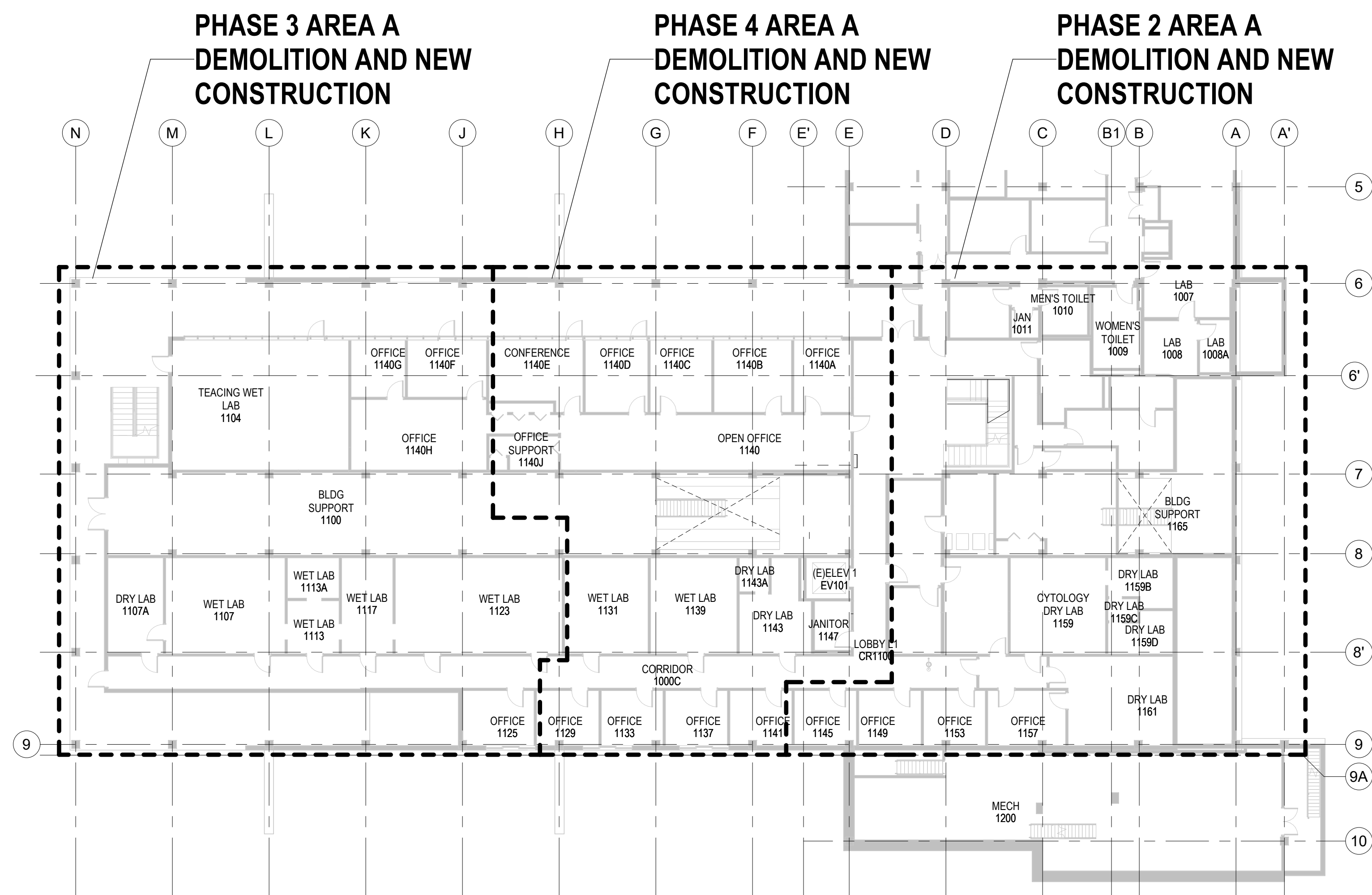
Sheet Name
**PHASING PLAN
LEVEL B, 1, 2**

Sheet Number
G-202

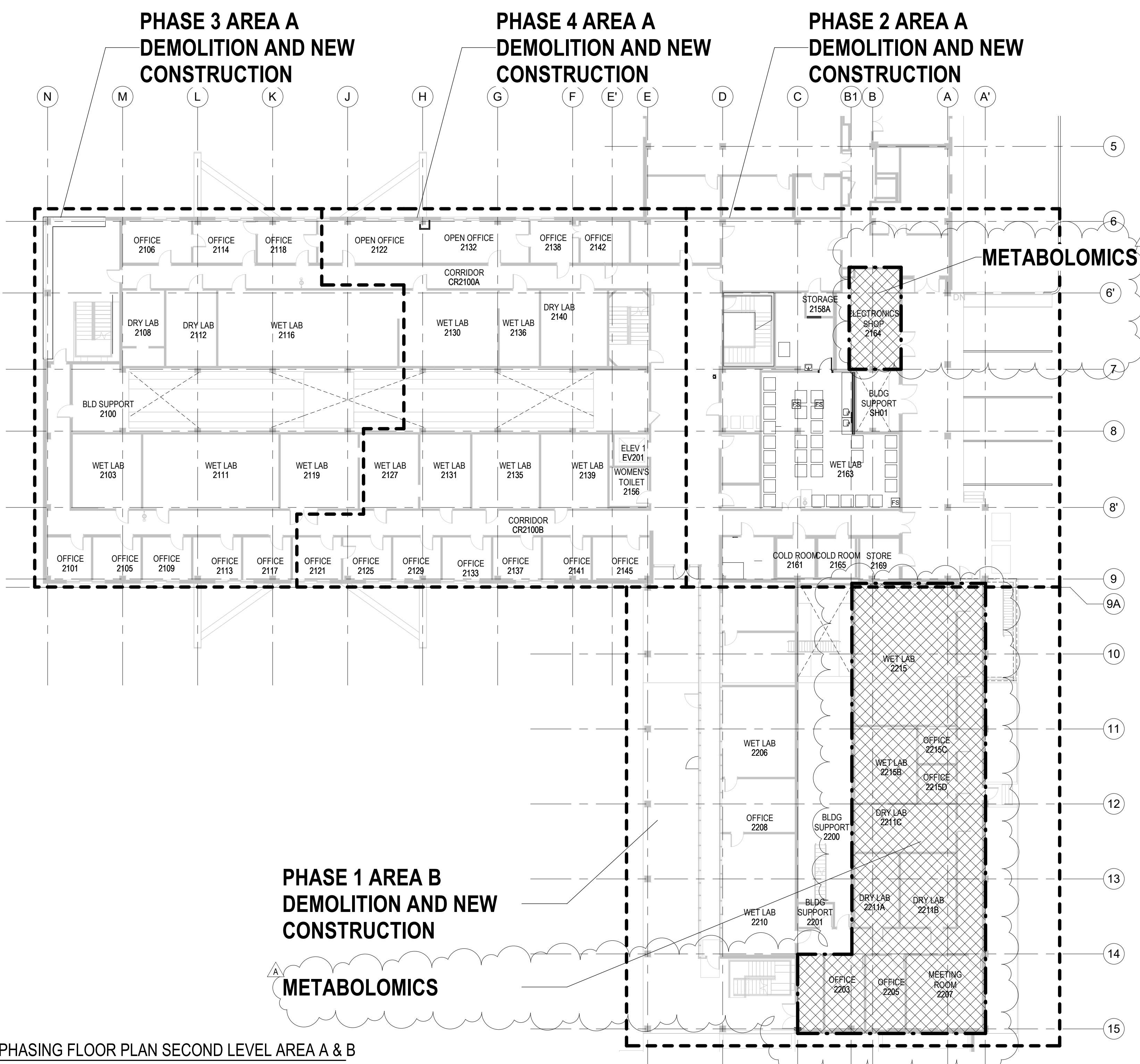
Project Status
BID SET



D1 PHASING FLOOR PLAN BASEMENT LEVEL AREA A
1/16" = 1'-0"

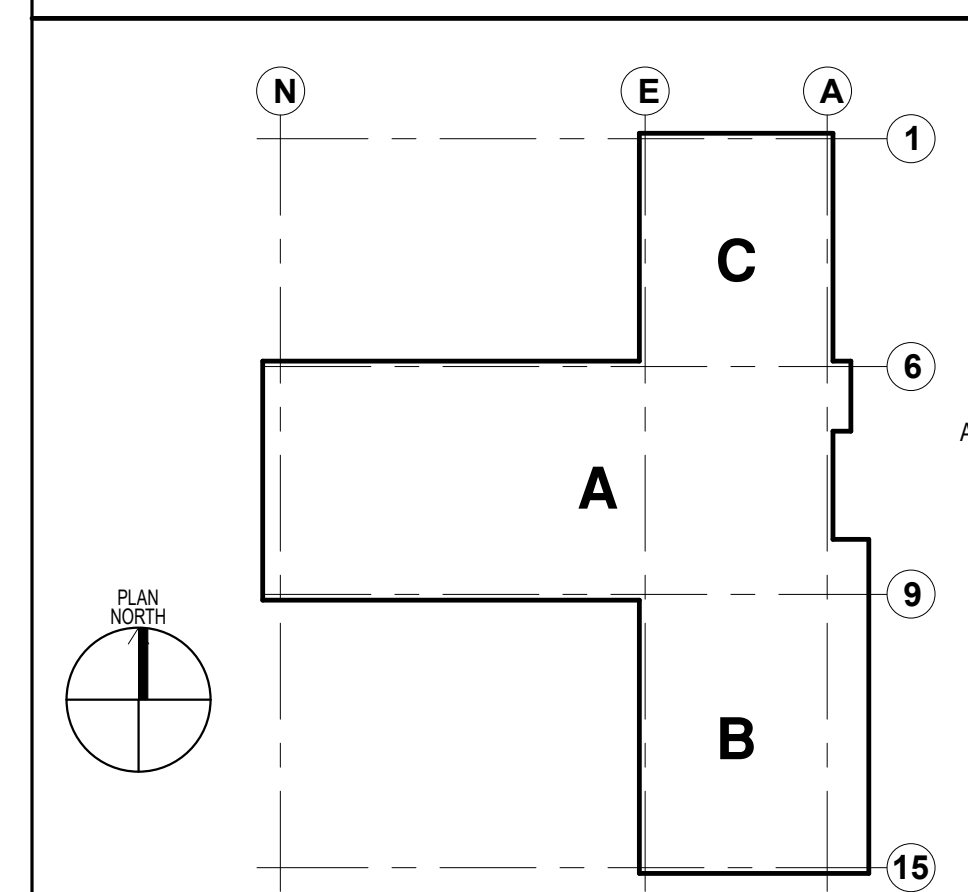


D3 PHASING FLOOR PLAN FIRST LEVEL AREA A
1/16" = 1'-0"



A3 PHASING FLOOR PLAN SECOND LEVEL AREA A & B
1/16" = 1'-0"

KEY PLAN



ROOM FINISH SCHEDULE							
LEVEL	NO.	NAME	FLOOR		WALL FINISH	CEILING MATERIAL	NOTES
			FINISH	BASE			
LEVEL 0 BASEMENT	0101	MECH EX	EXISTING	RB-1	PNT-1		
LEVEL 0 BASEMENT	0102	MECH	EXISTING	RB-1	PNT-1	OPEN TO STRUCTURE	AT NEW WALLS
LEVEL 1	1107A	DRY LAB	EXISTING	NONE	PNT-1	EXISTING TO REMAIN	PATCH AND PAINT
LEVEL 1	EV101	(E)ELEV 1	PER MFG	PER MFG	PER MFG	PER MFG	
LEVEL 2	2163	WET LAB	SV-1	SV-1	PNT-1	OPEN TO STRUCTURE	
LEVEL 2	2163A	WET LAB	SV-1	SV-1	PNT-1	ACT-1	
LEVEL 2	221B	DRY LAB	EXISTING	NONE	PNT-1	EXISTING TO REMAIN	PATCH AND PAINT
LEVEL 2	221C	DRY LAB	EXISTING	NONE	PNT-1	EXISTING TO REMAIN	PATCH AND PAINT
LEVEL 3	3167	DRY LAB	EXISTING	NONE	PNT-1	EXISTING TO REMAIN	PATCH AND PAINT
LEVEL 3	3201	ELEC	MATCH EXISTING	RB-1	PNT-1	PNT-1A	
TOS ROOF A	5001	ELEC ROOM	EXPOSED STRUCTURE	EXPOSED STRUCTURE	PNT-1	OPEN TO STRUCTURE	

INTERIOR FINISHES							
Key Name	CODE	MATERIAL	MANUFACTURER	PRODUCT	COLOR	SIZE	LOCATION
CASEWORK FINISH	SSF-1	SOLID SURFACE FABRICATION	HI MACS	SOLID SURFACE	T017 ANDROMEDA	---	TOILET ROOM COUNTERTOP
CEILING FINISH	ACT-1	ACOUSTICAL CEILING TILE	ARMSTRONG	ULTIMA #1913HRC	WHITE	2' X 4'	VARIOUS LOCATIONS WHERE NEEDED
CEILING FINISH	PNT-1A	PAINT	DUNN-EDWARDS	FLAT	DEV386 PRECIOUS PEARLS	---	PAINT FOR LOBBY CEILINGS
ELEVATORS	ELE1	METAL CAB FINISH	PER MANUFACTURER	POWDERCOAT	ARGENTO TEXTURE	---	TOP & BOTTOM PANELS
ELEVATORS	ELE2	WALL LAMINATE	PER MANUFACTURER	WILSONART PLASTIC LAMINATE	ASTRO STRANDZ 4940K-18	---	MIDDLE PANELS
ELEVATORS	ELE3	STAINLESS STEEL	PER MANUFACTURER	SOMPS SERIES - STYLE RING	SATIN STAINLESS STEEL	---	HANDRAILES
ELEVATORS	ELE4	RUBBER FLOORING	NORA	NCORAMENT GRANO 3.5MM	STANDARD TO BE SELECTED	36" X 36"	FLOORING
FLOOR FINISH	SV-1	RESILIENT SHEET	MANNINGTON	BIOSPEC MD	HOJICHA #15417	78" ROLL	LAB
WALL BASE	RB-1	RESILIENT BASE	JOHNSONITE	TOPSET BASE WITH TOE	281 GRIZZLY	4" HIGH	BASE AT RESILIENT TILE FLOORING
WALL FINISH	PNT-1	PAINT	DUNN-EDWARDS	EGGSHELL	DEV386 PRECIOUS PEARLS	---	TYPICAL FIELD PAINT

INTERIOR GENERAL NOTES

- ALL WALLS TO BE PNT-1 U.N.O.
- ALL HOLLOW METAL DOOR FRAMES AND DOORS TO BE PAINTED PNT-X IN SEMI GLOSS FINISH U.N.O.
- ALL BASE TO BE RB-1 U.N.O.
- SEE SHEET 1400 FOR INTERIOR FINISH LEGEND AND ROOM FINISH SCHEDULE
- FLOORING TRANSITIONS TO OCCUR AT CENTERLINE OF DOOR AND ARE TO BE SMOOTH AND EVEN. MAXIMUM VERTICAL CHANGE IN FLOOR LEVEL SHALL BE 1/4". SAME WHEN ADJOINING TO EXISTING FLOORING
- SEE RCP'S FOR CEILING FINISHES
- EXTEND FLOORING UNDER LAVESINK BASE CABINETS
- MISC. PANELS, FIRE EXTINGUISHER CABINETS, EXPOSED DUCTING PARTS, LOUVERS, VENTILATION COVERS, EXPOSED METAL, STEEL AND ANY EQUIPMENT NOT FACTORY FINISHED INCLUDING ASSOCIATED HARDWARE SHALL BE PAINTED TO MATCH ADJACENT SURFACE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
- SEE SPECIFICATIONS FOR ADDITIONAL FINISH INFORMATION
- ALL INTERIOR FINISHES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. INSTALLER SHALL BE QUALIFIED TO INSTALL SPECIFIC FINISH MATERIAL AND HAVE EXPERIENCE WITH PROJECTS OF SIMILAR MAGNITUDE AND COMPLEXITY
- TILE FLOORING SHALL BE STABLE, FIRM AND SLIP RESISTANT
- RESILIENT FLOORING SHALL BE STABLE, FIRM AND SLIP RESISTANT.

INTERIOR ABBREVIATION LIST

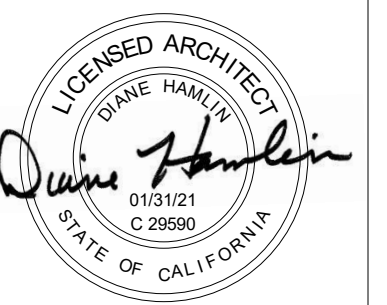
ACT	ACOUSTIC CEILING TILE
LN	UNOLEUM
PNT	PAINT
PT	PORCELAIN TILE
PTB	PORCELAIN TILE BASE
RB	RESILIENT BASE
SDT	STATIC DISSIPATIVE TILE
SSF	SOLID SURFACE FABRICATION
WT	WALL TILE

INTERIOR KEYNOTES

- EXISTING FLOORING & CEILINGS TO REMAIN, NEW PAINT AND BASE TO BE ADDED
- NEW PAINT AND WALL BASE NOT TO CONTINUE IN ADJACENT CORRIDOR
- PAINT AND BASE ON NEW WALLS TO MATCH EXISTING
- PATCH, REPAIR AND MATCH EXISTING ANY CONSTRUCTION DAMAGE OF FLOORING.

INTERIOR SYMBOL LEGEND

	FLOORING TRANSITION
	FINISH ACCENT TAG
	EXISTING FINISHES



950464

University of
California Riverside
Batchelor Hall -
Building Systems
Renewal

900 University Ave.
Riverside, CA 92507

Project Manager	Diane Hamlin
Project Architect	Zhi Wei
Structural Engineer	Vartan Chilingaryan
Mechanical Engineer	James Wermes
Electrical Engineer	Kelly Harthorn
Interior Designer	Ruby Therp
Laboratory Planner	Ken Filar

MARK	DATE	DESCRIPTION
	7/8/20	ALTERNATE SCOPE DEFINITION
	8/28/20	BUILDING DEPT BACKCHECK
	10/16/20	BID SET
A	3/15/21	BID ADDENDUM #8

Project Number	10044183
Original Issue	12/29/2019

UCR Project Manager: Blythe Wilson

Scale:	Author	--% CD Approval: ---
Drawn By:	Checker	--% CD Approval: ---
Checked By:	Project Number:	10044183 Construction
Project Number:	DSA Number:	--- Release: ---

Sheet Name

INTERIOR
FINISH LIST &
ROOM FINISH
SCHEDULE

Sheet Number

I-600

Project Status
BID SET

SECTION 14 22 10 MODERNIZATION OF ELEVATORS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. Bidding documents:
 - 1. Bidders shall examine existing conditions. Any discrepancies which affect the elevator work or conditions adverse to the bidder's equipment shall be brought to Owner's Representative's attention during the pre-bid RFI period prior to the bid date. If no discrepancies are presented, changes required to accommodate bidder's equipment become the responsibility and cost to Contractor.
 - 2. Bidders are responsible to identify all required building related work at time of bidding and included with their bid documents.
- B. A copy of the final contract with all attachments shall be onsite in the machine room at all times.
- C. Contractor shall provide a lock-box for each machine room.

1.2 DEFINITIONS

- A. Main Lobby: Ground Level unless otherwise indicated.
- B. Fire Recall Level: As directed by local fire authority. As existing.
- C. Alternate Fire Recall Level: As directed by local fire authority. As existing.
- D. All retained existing equipment shall be of equal condition and life span as of new equipment.
- E. Serviceability: It is recognized that each manufacturers' system contains components that are proprietary to the development of their systems. The Owner may wish to have the elevator system maintained by another technically qualified service provider and by submitting a bid for this project, the manufacturer shall guarantee that for a minimum of 20 years they will provide the following:
 - 1. Diagnostic, adjusting and monitoring tools for all components including documents, manuals, and wiring diagrams. Devices shall not self-destruct, require charging or exchange. Remote monitoring devices are excluded from this requirement, however if such devices are removed all wiring shall be neatly terminated, tied within a junction box and properly marked as to its content.
 - 2. Manufacturer shall guarantee to support the equipment for this project with regard to notification to Owner of system corrective updates, provide and install such updates at no cost to Owner.
 - 3. Provide contact information for their separate parts warehouse so that the Owner or designated service provider can order parts on a 24-hour basis and delivered within 48 hours. Parts may be provided from inventory when adequate stock exists. In some cases, parts will have to be special ordered from the factory or other vendor. Proprietary parts will be made available on an exchange basis.
 - 4. Provide a list of parts of each component manufactured and stored at the warehouse and the retail cost of each at close out of the project ~~and estimated escalation cost~~. The cost of these parts is what would be charged to Owner or other service provider.
 - 5. Provide contact information for technical support so that the Owner or designated service provider can obtain technical support on a 24-hour basis to provide assistance in trouble shooting problems. Indicate hourly rate charged to Owner or designated service provider for such service.
 - 6. In the event that a company other than the Original Equipment Manufacturer (OEM) maintains the elevators, and if the equipment was unable to be repaired by the non- OEM

maintenance company, a factory-trained OEM technician would be required to assist (as it would if Contractor’s own technician were in the same situation). If such an event was to occur, OEM Contractor would make its factory-trained technician available for assistance upon request of the Owner within three (3) business days, based on the original contractual hourly rates subject to established annual escalations. This shall survive any termination of the maintenance agreement.

7. The above will survive any termination of the maintenance agreement.
8. Contractor shall be defined as “Elevator Contractor”.
9. Subcontractor shall be defined as any contractor contracted by either “Owner or Elevator Contractor”.

1.3 DESCRIPTION

A. Examination of site:

1. Contractor shall visit the building, examine the existing elevators and contract documents, determine condition of all retained components, space conditions, power supply and mainline disconnect.
2. Make all surveys necessary to meet the requirements of this specification and compatibility to products provided.

B. Field measurements:

1. Field verify dimensions before proceeding with the work.
2. Coordinate related work by other trades.
3. Contractor shall assume responsibility and provide full maintenance of the elevator equipment upon award of this contract and shall continue to do such throughout the modernization.

1.4 RELATED WORK INCLUDED BY OTHERS IN THIS SECTION UNDER THE ELEVATOR CONTRACT

A. Contractor shall visit the building, examine the existing conditions, power supply, standby/emergency power supply, emergency battery lowering, mainline disconnect, and include all work needed to ensure a fully code compliant modernization. Contractor or his sub-contractors shall perform this work, which may include but is not limited to the following:

1. General:
 - a. Self-closing and self-locking access doors and pit ladders (as req.)
 - b. Providing supports to carry structural reaction, impact and uplift loads imposed by elevator equipment.
 - c. Block-outs, pockets and chases in walls and floors for signals, fixtures, and conduit.
2. Electrical work:
 - a. Power feeders: Modification to existing, or installation and connection of three phase power, through fused mainline switches or circuit breakers and extended to terminals of controllers. Provide continuous ground where needed.
 - b. Light circuits: Single-phase circuit through disconnects and extended to controller for car lights and fan.
 - c. Communication circuit: Telephone circuit terminated at junction box of each controller.
 - d. Illumination: Lights with guards, illuminating light switches and convenience outlets in pits, machine rooms, controller areas and overhead sheave spaces.
 - e. Conduit: Installation of electrical conduit and pull boxes with pull wire between hoistways and remote locations of each indicator and control panel.
 - f. GFCI Outlets: Provide in machine room and pits.
 - g. Provide NEMA 4 approved electrical devices and conduits for all electrical installed below the lowest sill level.
3. Fire Life Safety: Stand alone system.
 - a. Sensing devices: Installation and or removal modification to smoke detectors, heat detectors, shunt trip, sprinklers, or products of combustion sensors in elevator lobbies,

- machine rooms, hoistways and alternate fire recall floor with circuits terminated at junction box in machine rooms for emergency fire service operation.
- b. Provide fire proofing as required by code authority.
- 4. If work by others is excluded from the elevator contractors' scope of work, they shall coordinate with all sub-contractors to complete all required building related work prior to inspection at no additional cost to the Owner.

1.5 RELATED WORK INCLUDED BY ELEVATOR CONTRACTOR IN THIS SECTION

- A. Barricades: Full height self-closing self-locking barricades for protection of open hoistways during construction.
- B. Painting: Field painting of prime-finish items constituting final finishes.
- C. Contractor shall coordinate and perform all pretesting of all building systems prior to inspection at no additional cost to the Owner.

1.6 QUALITY ASSURANCE

- A. Qualifications of Contractors:
 - 1. General: The entire elevator installation shall be installed and maintained by the acceptable Contractors listed or as qualified by addendum. No portion of the work shall be subcontracted unless qualified and accepted by addendum.
 - 2. Installer's qualifications: Installer must be a licensed, certified conveyance mechanic in the state where installation is located.
- B. Sub-contractors:
 - 1. Contractor shall be solely responsible for any and all of the work done by his sub-contractor or other employees and all orders or instructions from the Owner's Representative shall be through him to them. It shall be Contractor's duty to see that all of his sub-contractors commence their work properly at the proper time, and carry it on with due diligence so that they do not delay or injure either work or materials; and that all damage caused by them or their workmen is properly made good by them or by himself at his cost.
 - 2. The use of sub-contractors is to be limited to work outside the scope of elevator construction work; for example, patching, painting, coring of walls, marble work and refinishing. Contractor of sub-contractor will be responsible for any drywall damage, patching and painting in regards to their scope of work.
- C. Quality of work and workmanship:
 - 1. When completed, the installation shall be modern in all respects.
 - 2. All components specified as new shall be provided as new. All components specified to be retained may be provided as new at Contractor's option subject to approval of Owner's Representative. All retained components are to be examined, cleaned, adjusted, repaired and/or replaced with new parts. Contractor must be willing to accept all retained equipment on full maintenance without prorating.
 - 3. All work performed shall be conducted in a workmanship type manner.
- D. Requirements of regulatory agencies:
 - 1. Codes: In accordance with the latest applicable edition requirements of the following and as specified:
 - a. A.D.A.: Americans with Disabilities Act
 - b. ASME: American Society of Mechanical Engineers - A17.1; Safety Code for Elevators and Escalators
 - c. CBC: Title 24; California Building Codes
 - d. CCR: Title 8; California Code of Regulations
 - e. IEEE
 - f. NEC: National Electric Code / NFPA 70.
 - g. NFPA-72
 - h. All local codes and Amendments and Administration, which govern

- E. Permits, Inspections, and Taxes:
 - 1. Arrange and pay for inspections by governing authorities.
 - 2. Obtain and post operating permits per applicable code.
 - 3. Arrange and pay for all applicable taxes.
- F. Safety Policies and Practices:
 - 1. Installation and maintenance contractors are required to follow their company’s safety practices and policies
 - 2. Installation and maintenance contractors are required to follow all practices and policies of the building management.
 - 3. Installation and maintenance contractors are required to follow governing authorities’ safety practices and policies.

1.7 SUBMITTALS

- A. Shop drawings:
 - 1. Submit three copies of the following prior to ordering any materials:
 - a. Layouts: Plan of machinery and hoistway spaces showing new equipment and existing equipment; include impact and static loads imposed on building structure and clearances around equipment.
 - b. Details: Submit details of cab shell and interiors, fixtures, and entrances.
 - c. Data: Indicate on layouts or separate data sheets; machine spaces heat release, power requirements, conduit runs outside of hoistways and machine rooms, car and counterweight roller guides, control systems, motor drive units and door operators.
 - d. Provide all structural submittals (as required) with an approved Professional Engineer stamp and signature.
- B. Samples:
 - 1. Provide samples of materials and finishes exposed to public view and additional, if specifically requested, 6 inch x 6 inch panels, 12 inch lengths or full size if smaller, as applicable.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery and storage:
 - 1. Protect equipment during transportation, erection and construction. Store under cover to prevent damage due to weather conditions. Replace damaged materials. Storage space on site will be available. Additionally, a storage container is required to properly secure and store all equipment, it shall be provided at no cost to the Owner.
- B. Handling:
 - 1. Owner’s Representative has the first right of refusal to retain any elevator components that are to be removed and modernized with new equipment. All removed components shall remain property of the Owner’s Representative, until the Owner’s Representative notifies Contractor, in writing, of removed components that Owner’s Representative would like to retain. All remaining elevator equipment not to be retained by the Owner’s Representative or reused by Contractor shall be promptly removed from the building by Contractor at no cost to the Owner’s Representative, and become the property of Contractor.
 - 2. Contractor shall make every attempt to recycle removed elevator equipment. Contractor shall correct any damage to building surfaces and surrounding areas if damaged during removal of this equipment, at no cost to the Owner’s Representative.
- C. Building operations:
 - 1. The building will remain in operation during the execution of this contract. Cooperate with building management in scheduling work in such a way as not to cause interruption of or interference with the building operations.

D. Electrical shutdowns:

1. Temporary electrical shutdowns will not be allowed except for brief periods to be scheduled outside normal hours and at least forty-eight (48) hours in advance and approved by Owner's Representative.

1.9 WARRANTY

A. Guarantee and Warranty:

1. Provide special project warranty, signed by Contractor, Installer and Manufacturer, agreeing to replace/repair/restore defective materials and workmanship of all work performed which may develop within one (1) year from final date of completion and acceptance of the **entire installation**. "Defective" is hereby defined to include, but not by way of limitation, operation or control system failures, performances below required minimums, excessive wear, unusual deterioration or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise or vibration and similar unusual, unexpected and unsatisfactory conditions.

PART 2 - PRODUCTS

2.1 DESCRIPTION OF SYSTEMS:

A. Elevator No. 1:

- | | |
|---------------------------------|---|
| 1. Type: | Traction Elevator |
| 2. Capacity: | Match Existing |
| 3. Speed: | Match Existing |
| 4. Stops: | 5, at Basement, 1,2, 3, 4 |
| 5. Openings: | 5, Inline |
| 6. Travel: | Existing |
| 7. Control: | Soft Start AC |
| 8. Operation: | New Microprocessor Simplex Selective Collective |
| 9. Machine Location: | Basement Side |
| 10. Special Operations: | |
| a. Fire Emergency Service | |
| b. Emergency Battery Lowering | |
| 11. Door Operation: | Provide New |
| 12. Door Protection: | Provide New |
| 13. Guide Rails: | Retain |
| 14. Guide Shoes: | Provide New |
| 15. Motor | Provide New |
| 16. Buffers: | Retain |
| 17. Car Frame & Platforms: | Retain |
| 18. Power Unit: | Provide New |
| 19. Controllers: | Provide New |
| 20. Car Operating Panels: | Provide New |
| 21. Car Position Indicators: | Provide New |
| 22. Hall Position Indicators: | Provide New |
| 23. Service Cabinet: | Provide New |
| 24. Communications: | Provide New |
| 25. Hall Button Stations: | Provide New |
| 26. Hall/Car Lanterns: | Provide New |
| 27. Handicap Requirements: | Provide New, as Required |
| 28. Wiring: | Provide New |
| 29. Car Enclosure: | Provide New per Manufacturers Standards |
| 30. Hoistway Entrances: | Provide New |
| 31. Miscellaneous Items: | |
| a. Key Operated Hoistway Access | |

- b. Seismic Requirements
- c. Lobby Park Key Switch
- d. Clean hoistways, machine rooms and equipment; paint machine room floor, pit floor, car top, and all existing metal work
- e. Top of car guardrail Provide new (as required)

2.2 MATERIALS

- A. Aluminum: Alloy and temper best suited for anodizing finish specified.
- B. Plywood: PS-1, A-D exterior Grade Douglas Fir, fire retardant treated.
- C. Sheet steel: ASTM A366, uncoated, pickled, free from defects.
- D. Sound deadener: Fire retardant; spray, roller or adhesive applied; 3/16” thick.
- E. Stainless steel: ASTM A167; type 302 or 304.

2.3 FINISHES

- A. Exposed-to-view surfaces:
 - 1. Provide as follows unless otherwise specified.
 - a. Aluminum: Clear anodized finish.
 - b. Sheet steel:
 - 1) Shop prime: Degrease clean of foreign substances and apply one coat of corrosion inhibiting primer compatible with finish paint selected. Hoistway items visible to public shall be painted one additional coat of black paint.
 - 2) Finish paint: Three coats baked enamel; sand each coat smooth; color as selected.
 - c. Stainless steel:
 - 1) Plain: Satin, directional polish, No. 4 Mirror directional polish, unless otherwise specified.
 - d. Touch-up:
 - 1) Prime surfaces: Use same paint as factory for field touch-up.
 - 2) Finish painted surfaces: Refinish whole panel with shop prime and finish paint as specified above.
- B. Non-exposed-to-view surfaces:
 - 1. Degrease or remove any rust and shop paint manufacturer's standard corrosion inhibiting primer.

2.4 AUTOMATIC OPERATION

- A. General operation of individual elevators:
 - 1. Provide a non-proprietary diagnostic microprocessor-controlled dispatching system, based on real time calculations, designed to monitor all types of traffic and sufficiently flexible so that it can be modified to accommodate changes in traffic patterns.
 - 2. Serial link communications: Provide a distributed processing network consisting of localized processors located in machine rooms, car stations, hall stations and top of car to allow system to make fast decisions based on data shared by the processor involved in the different operations of the elevators. For group dispatch operations, all elevators in the group shall be capable of acting as a group common dispatcher as the need arises.
 - 3. Fault diagnostic system: Provide Owner's Representative with all hardware such as on-board LED diagnostics, hand held device or laptop computer, as standard with manufacturer, and supporting software documentation. Diagnostic system shall be capable of determining faults most difficult to find, as well as be capable of performing all code required testing.
 - 4. The system shall be flexible, irrespective of the number of elevators in normal service.
- B. Simplex selective collective operation:
 - 1. Arrange for simplex selective collective automatic operation. Operate elevators from a single riser of landing buttons and from operating device in car.

2. Momentary pressure of one or more car or landing buttons, other than those for landing at which car is standing, starts car, and causes car to stop at first landing for which a car or landing call is registered corresponding to direction in which car is traveling. Stops made in order in which landings are reached, irrespective of sequence in which calls are registered.
3. Double door operation not permitted. If an up-traveling car has a passenger for an intermediate floor and a down call is registered at that floor, with no calls above car, it travels to floor, opens door to let passenger out, then lights down direction arrow in hall lantern and accepts waiting passenger without closing and reopening doors.

2.5 SPECIAL OPERATIONS

- A. Inspection operation:
 1. Provide key-operated hoistway access device and car top operating device. Key switches shall be mounted in door frames with a separate cover plate at terminal landings.
- B. Operation under fire or other emergency conditions:
 1. Provide special emergency service to comply with current ASME and CCR Title 8, CBC Title 24, and local codes having jurisdiction.
 2. Provide Phase 1 recall switch at main floor elevator lobby.
 3. Key switches at main floor shall be integrated in hall button station hoistway entrance jamb with engraved instructions.
- C. Lobby Park:
 1. Arrange control system to enable the elevator, from either a key switch or time clock, to bring the elevators to the main lobby, cycle the doors and shut down. Leaving only the door open button functional. All emergency service operations shall over ride this feature.

2.6 DOOR OPERATION

- A. Passenger type:
 1. Provide door times available as specified under "Design Criteria."
 2. Car and hoistway doors shall open and close simultaneously, quietly and smoothly; door movement shall be cushioned at both limits of travel. Door operation shall not cause cars to move appreciably.
 3. Door hold open times shall be readily and independently adjustable when car stops for a car or hall call. Main floor door hold times shall be adjustable independent of other floors.
 4. Provide closed loop regulated speed performance, onboard diagnostics, adjustable times, nudging, and test switches.
- B. Door operator:
 1. Provide new heavy-duty master type solid state closed loop door operators mounted on car enclosure utilizing minimum 12-gauge support angles to isolate from direct mounting of operator on the car top.
 2. Pre-approved closed loop heavy duty door operators:
 - a. GAL Linear
 - b. GAL MOVFR
 3. Provide code compliant door weight data tag.
- C. Door Protection:
 1. Elevator No. All: Remove existing door protection devices and provide new electronic optical 3D scanning type:
 - a. Provide a door protective system which does not rely on physical contact with a person or object to inhibit door movement or initiate door reversal.
 - b. Pre-approved optical door sensors:
 - 1) Elevator Contractor
 - 2) Adams GateKeeper Max
 - 3) Formula Systems
 - 4) Janus Pana40 Plus
 - 5) Janus Pana Chrome 3D, with voice annunciation

- 6) Tritronics Leading Edge
- c. The system shall be able to detect a 2-inch diameter rod introduced at any position within the door movement and between the height of 2 inches and 63 inches above sill level.
- d. Detection of intrusion into the protected area shall cause the doors, if fully open, to be held in the open position and, if closing, to reverse to fully open position.
- e. If doors are prevented from closing for an adjustable period of 15 to 45 seconds or upon activation of fire emergency service, they shall proceed to close at reduced speed and a loud buzzer shall sound. Door closing force shall not exceed 2-1/2 ft.-lb. when door re-opening device is not in operation.
- f. For side-opening doors, the detector for the strike jamb side shall be recessed, flush with strike jamb.

2.7 SIGNALS AND OPERATING FIXTURES:

A. General:

- 1. Provide signals and fixtures as shown and specified. Location and arrangement of fixtures shall comply with disabled access requirements.
 - a. Passenger Elevator Buttons: Provide minimum 1-inch diameter mechanical, with fully illuminated buttons with LED's and engraved identifications. Buttons shall be raised 1/8 inch from surrounding surface with square shoulders. Survivor, Bruiser or equal.
 - b. Switches: Toggle type typically or key operated where noted.
 - c. Provide six (6) keys for each elevator keyed device, with proper labeled identification upon turnover of elevator.
 - d. Cabinets: Provide with pulls, concealed hinges and doors mounted flush with hairline joints to adjacent surface.
 - e. Arrangement: Arrangement of fixtures shall generally conform to that specified, but components may be rearranged, if desired, subject to Owner's Representative's approval.
 - f. Engraving: Of size indicated; color backfill with epoxy paint in contrasting color as selected. No applied engraved plates.
 - g. Lamps: Miniature LED type.
 - h. Audible Chimes: Electronic adjustable audible chimes; bell type gong not acceptable.
 - i. Provide floor passing signal of the adjustable electronic audible chime type.
 - j. Tactile Markings: Provide raised Braille and alpha characters, numerals or symbols adjacent to operating buttons and devices used by the public according to local codes. Indications may be engraved directly on faceplates or separate plates flush mounted with hairline joints and concealed mechanical fasteners. Plates shall be of same size and shape as buttons or integral "fishtail" type.
 - k. Acceptable manufacturers: EPCO, ERM, MAD, or INNOVATION, fixtures with 5/8" engraved identifications. Operation of car or hall button shall cause button to illuminate. Response of car to car or hall call shall cause corresponding button to extinguish.
 - l. Faceplates: Provide of material and finish as indicated and specified; 1/8-inch minimum thickness with sharp edges relieved. Faceplates shall be sized to cover holes left by removal of existing fixtures where new fixtures are provided and provided with engraved fire sign, per A17.1. New faceplates shall cover all existing holes or Contractor shall patch at no additional cost to the Owner.
 - m. Audible chimes: Electronic adjustable audible chimes from 75 to 85 dB in elevator lobby 3' - 0" above floor and 3' - 0" away from elevator entrance; bell type gong not acceptable.

B. Car operating panels:

- 1. General: Provide buttons numbered to conform to floors served and the following:
 - a. Locate top operating button at 48 inches above floor.

- b. Locate emergency stop switch and illuminated alarm button in bottom row at 35 inches above floor.
 - c. Provide "Door Open" and "Door Close" buttons located above emergency stop and alarm of same design as car button.
 - d. All signage required by local codes shall be engraved and painted as directed by Owner's representative.
 - e. Provide fire emergency features, per code. Provide FEO-F1 key switch for fire service unless local code requires different.
 - f. Make provisions for card readers in Elevator No. 1.
2. Provide one new panel per car; integrate cabinets, buttons and engraving into swing front return panels without applied faceplate. Entire front return shall swing on concealed hinges with concealed locking means for servicing.
- C. Car position indicators:
1. Provide car position indicators with 2 inch indications corresponding to floor designations with matching direction arrows.
 - a. Provide new digital alpha numeric type segmented LED readout indicator with minimum two-inch high indications mounted integral with each car operating panel.
- D. Service cabinet:
1. Provide new cabinet, door with a lock and concealed hinge as an integral part of car operating panel mounted with flush hairline joints. Cabinet door shall be provided with a flush glazed window of required size to hold elevator-operating permit, mounted horizontally. Service cabinet shall contain the following:
 - a. Independent service switch
 - b. Two-speed ventilation switch (Hi-Off-Low)
 - c. Light switch as applicable
 - d. Inspection switch, key operated
 - e. Duplex GFI convenience outlet
 - f. Buzzers as required
 - g. Constant pressure test switch for emergency car lighting
 - h. Card reader over-ride switch-key operated
- E. Communication equipment:
1. Provide a new complete communication system in compliance with ADA regulations consisting of a combination speaker/microphone, amplifier, automatic dialer with 4 number rollover capability and matching car station push button with telephone symbol to activate system and acknowledgment lights. Mount in car operating panel behind a pattern of holes, wire to machine room and program automatic dialer as directed by Owner's Representative.
- F. Hall button fixtures:
1. Each fixture shall contain buttons, which light to indicate hall call registration and extinguish when call is answered. Provide intermediate fixtures with two buttons and terminal fixtures with one. Engrave fire-exiting instructions on faceplates. Provide minimum of two fasteners at top and bottom of faceplate.
 - a. Provide one riser of hall button stations.
- G. Hall position indicators:
1. Provide with indications corresponding to floor designations with matching direction arrows.
 - a. Provide new digital alphanumeric type segmented LED readout indicator with minimum two-inch high indications. Combine with hall lantern **at all landings.**
- H. Car lanterns:
1. Manufacturer's standard dual car riding lantern mounted at a maximum height above floor. Lens shall be flush with faceplate or face of jamb.
 2. Lantern illuminates and chimes as doors open. Provide single chime for up direction and double chime for down direction. Chime sound level shall be at 10 decibels over ambient.

- I. Disabled access requirements:
 - 1. Provide to meet local codes having jurisdiction including handrail and button configuration.
 - a. Car operating panels: Provide raised Braille and alpha characters, numerals or symbols to the left of operating buttons and devices used by the public. Indications may be engraved directly on faceplates or separate plates flush mounted with hairline joints and concealed mechanical fasteners. Plates shall be of same size and shape as buttons. Raised characters shall be white on a black background with Braille designations directly below the character. Provide “star” at main egress landing.
 - b. Entrances: Provide raised Braille and alpha characters, numerals or symbols similar to those for car stations of size required by governing authority. Locate on each entrance jamb at 60 inches above floor indicating floor designation. Material and finish of plates shall match hall button station faceplates. Material and finish of plates shall be white on black. (CA only) Provide with contrasting background. Braille designation shall be to the bottom of the raised character. Provide mounting means similar to those on car panels. Braille designation shall be to the bottom of the raised character. Provide “star” at main egress landing.
 - c. Entrances: Provide plate with elevator number for first floor entrance. Character shall be a minimum of 3”. For Destination Dispatching Systems, Braille shall include the elevator number or letter designation as well as the floor designation. Material and finish of plates shall be white on black.

2.8 WIRING

- A. General:
 - 1. Provide all necessary wiring and 25% spares between cars and controllers and to all remote-control stations; minimum of eight. Furnish shielded wires in cables for all communications card readers, cameras, digital displays, and speakers. Include four additional pairs of shielded spares and two RG-6 coaxial cables or equivalent, for each car. Electrical wire runs will be free of splices or connection unless at designated junction points.
- B. Traveling Cables:
 - 1. Use minimum number of traveling cables. Include shielded wires and spares as noted above. Cord thoroughly and protect cables from rubbing against hoistways or car items. Provide with steel cable core and properly anchored to relieve strain on individual conductors.
 - 2. All traveling cables shall be wired from machine to elevator, without junction box or spliced connections.
- C. Hoistway Wiring:
 - 1. All wiring shall be neatly terminated, tied within a junction box and properly marked as to its content.
 - 2. If junction boxes are used, NEC approved terminal strips shall be used and properly identified.
 - 3. No splices shall be allowed.
- D. Work light and GFCI convenience outlet:
 - 1. Provide on top of car with protective plastic lamp guard.
 - 2. Provide compact fluorescent type (CFL)
- E. Stop switch:
 - 1. Provide in each pit. Provide NEMA 4 enclosure.
 - 2. Provide on each top of car.
- F. Alarm gong:
 - 1. Provide on top of each car to be actuated by corresponding alarm button or emergency stop switch.
- G. Auxiliary disconnect switches:
 - 1. Provide as required in remote controller rooms or at remote equipment not in view of mainline switches; include all wiring and conduit.

2.9 CAR ENCLOSURES

- A. Passenger cars:
 - 1. Provide an emergency car lighting unit mounted on top of car, battery driven and self-rechargeable. Upon outage of normal power the unit shall, within 5 seconds, light two lamps as part of normal car lighting. The unit shall have sufficient capacity to keep the lights in continuous operation for four hours and the alarm bell for one hour. Provide a readily accessible means for testing the unit in service cabinet. Light fixtures mounted in car front returns or operating panels are not acceptable. Illuminate lights directly over car operating panels.

2.10 HOISTWAY ENTRANCES; PASSENGER TYPE:

- A. General:
 - 1. Retain existing or provide new as specified.
- B. Hangers and Tracks:
 - 1. Provide all new door tracks and hanger assemblies. Sheave type with two-point suspension. Steel sheaves with flanged groove and resilient sound-absorbing tires. Minimum 2-1/2-inch diameter for hoistway, 3 inch for car. Manufacturer's heavy-duty tracks and ball or roller bearing with adjustable up thrusts.
- C. Hanger headers:
 - 1. Retain existing. Modify for new door tracks, reinforce and refinish.
- D. Struts:
 - 1. Retain existing, clean and paint.
 - a. Provide rubber door stops.
- E. Closers:
 - 1. Provide new cable relating torsion spring mechanical type or broken arm jack knife type as required for door assembly.
- F. Dust and hanger covers:
 - 1. Retain existing, clean and refinish with black paint. Replace damaged and missing dust covers.
- G. Fascia, toe and head guards:
 - 1. Retain existing, modify to comply with code, refinish with black paint and refasten for greater rigidity.
- H. Interlocks:
 - 1. Provide all new. Equip each hoistway door with a tamper-proof interlock which shall prevent operation of the car until doors are locked in the close position as defined by the Code and shall prevent opening of doors at landing from corridor side unless car is at rest at landing in leveling zone or, hoistway access switch is used. Provide all new type "SF" high temperature wiring for interlock circuits.
- I. Pick-up roller assemblies:
 - 1. Provide all new pick-up roller assemblies as required for door operating equipment furnished.
- J. Door restrictor:
 - 1. Provide new, door restrictor device compatible with new door equipment.
- K. Sills:
 - 1. Retain existing, power clean to metal and refinish, full length of sill.
- L. Limit Switches:
 - 1. Provide new

- M. Frames:
 - 1. Retain existing. Clean and refinish as scheduled.
- N. Hoistway doors:
 - 1. Provide New.
 - 2. Provide new full height astragals and missing or damaged non-vision wings matching finish of door panels. Contractor must use the original reinforcing on existing hoistway and car doors for mounting hangers, pickup rollers, drive vanes, etc. If original reinforcing is not reusable for drive vanes and pickup rollers, Contractor shall furnish new reinforcing (minimum of 1/4" thick plate) welded to the door face. A minimum of four (4) 5/16" threaded bolts is to be used for attachment to the reinforcing plate. Where slotted holes are provided in the attachment block, a 1/4" dowel pin is to be fitted after doors locks are set up. Clean and refinish door panels as scheduled. Door panels to be refinished by others. Vandal resistant paint. Remove door panels before painting.

2.11 ELEVATOR EQUIPMENT

- A. Design Criteria:
 - 1. Performance:
 - a. Contract Speed: Maximum ten percent (10%) speed variation under any loading condition in the up direction.
 - b. Motion Time: From start to stop of elevators motion as measured in both directions for a typical one floor run under any loading condition.
 - 1) 8.5 seconds
 - c. Door Open Times:
 - 1) 2.0 seconds
 - d. Door close times: Minimum, without exceeding kinetic energy and closing force, allowed by code.
 - e. Door dwell times: Comply with A.D.A. formula and provide separate adjustable timers with initial settings as follows:
 - 1) Main lobby hall call: 5.0 to 6.0 seconds.
 - 2) Upper lobby hall call: 5.0 to 6.0 seconds.
 - 3) Car call: 5.0 to 6.0 seconds. Choose one.
 - 4) Interruption of door protective device: Reduce dwell to 1 second.
 - f. Leveling: Within 1/4 inch under any loading condition. Level into floor at all times, do not overrun floor and level back.
 - 2. Operating qualities: Owner's Representative will judge riding qualities of cars and enforce the following requirements. Make all necessary adjustments.
 - a. Acceleration and deceleration: Starting and stopping shall be smooth and comfortable, without obvious steps of acceleration. Slowdown, stopping and leveling shall be without jars or bumps. Elevator shall start movement within .5 seconds of fully closed doors. Stopping upon operation of emergency stop switch shall be rapid but not violent.
 - b. Horizontal Acceleration (ISO A95 Scaling): Maximum 12 mg peak-to-peak measured at full speed for full travel in both directions.
 - c. Vertical Vibration: Ride shall be free of vibration throughout acceleration, full speed and deceleration for full travel in both directions.
 - 3. Sound control: (A Scaled – fast – Lmax over the duration of the operation).
 - a. Vibration: Sound isolate machines and motor drives from beams and building structure to prevent objectionable noise and vibration transmission to occupied building spaces.
 - b. Airborne noise: Maximum acoustical output level of:
 - 1) 85 dB measured in machine room. With the meter located 3' - 0" from each machine room door at floor level.
 - 2) 55 dB measured in elevator cars during all sequences of operation.
 - 3) 50 dB measured in elevator lobbies. From the nearest staff work station to the elevator lobby.

2.12 HOISTWAY EQUIPMENT

- A. Guide rails and brackets:
 - 1. Retain existing rails, realign, clean, check, tighten and replace Code non-complying brackets, fishplates and bolts. Provide log of the alignment corrections to the Owner's Representative.
- B. Guide shoes:
 - 1. Provide new guide shoes of the roller type with neoprene tires, minimum 3/4-inch-wide and fully adjustable spring loaded to provide continuous contact with rail surfaces. Balance car to insure equal guide shoe pressure on all wheels and not exceed manufacturer's recommendations. Nominal roller diameter shall be 4" 6".
- C. Buffers:
 - 1. Retain existing.
- D. Car frame and platform:
 - 1. Retain existing car frame. Clean down and tighten frame bolts. Static balance weight to be added as required.

2.13 MACHINE ROOM EQUIPMENT

- A. General:
 - 1. Provide equipment to fit existing space and structural limitations. Coordinate related electrical, structural and mechanical work with other trades.
- B. Controller:
 - 1. Integral, floor or wall mounted as applicable to space conditions. Include door operating relays combined with controller. Provide solid state soft starting with starting switches rated at minimum 57% of horsepower rating. IEC method of line starter application is unacceptable. Provide three (3) manual reset overload relays, one in each line and reverse phase relay. Provide externally mounted permanently identified junction boxes on controller cabinets for termination of communication circuits. Design controller to accommodate future stops. Pre-approved controllers: **Motion Controls, ThyssenKrupp, Otis (listed in order of preference).**
- C. Elevator battery emergency lowering operation:
 - 1. Provide a battery driven unit which will initiate operation of the Protective Circuit and lower elevator to bottom landing in the event of a power failure.
 - 2. Service shall be restored automatically upon restoration of normal power supply.
 - 3. Arrange with an exposed method of testing.
 - 4. Arrange circuitry so that, if the mainline switch is open when the power transfer takes place, the elevator will not respond to the operation of the protective circuit.
 - 5. Provide a double pole-isolating switch on the battery unit to disconnect the battery output.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
 - 1. Install per manufacturer's requirements, those of regulatory agencies and as specified.
- B. Welded Construction:
 - 1. Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustments, inspection, maintenance and replacement of worn parts.
 - 2. Comply with AWS standards for workmanship and for qualifications of welding operators.

- C. Sound Isolation:
 - 1. Mount rotating and vibrating elevator equipment and components on vibration- absorption mounts, designed to effectively prevent transmission of vibrations to structure and thereby, eliminate sources of structure-borne noise from elevator system.
- D. Lubrication:
 - 1. Lubricate operating parts of systems as recommended by manufacturer.
- E. Hazardous Disposal Certification:
 - 1. Contractor to provide oil and hazardous waste removal documentation per required EPA standards. Provide copy of documentation to Owner.
- F. Alignment:
 - 1. Coordinate alignment of hoistway entrances with elevator guide rails, for accurate alignment of entrances with cars. Where possible, delay final adjustment of sills and doors until car is operable in shaft. Reduce clearances to minimum, safe workable dimensions at each landing.
 - 2. Align guide rails plumb and parallel with maximum deviation of 1/16 inch. Anchorage of guide rails in pits shall not compromise waterproofing.
- G. Graphics:
 - 1. Provide graphics visible to public as selected by Owner's Representative.
- H. Manufacturer's nameplates:
 - 1. Manufacturer's nameplates, trademarks or logos not permitted on surfaces visible to public.
- I. Cleaning of the installation:
 - 1. After the installation of each elevator has been completed and immediately prior to the carrying out of the tests, the machine room and all equipment therein, the elevator hoistways including outside of car and all ledges and similar areas, the elevator pit and equipment therein, and all door hanger runners, guides, tracks and sills shall be thoroughly cleaned down, preferably with vacuum cleaning equipment, and all dust, fluff, dirt, grit, excessive oil and grease and rubbish shall be removed from site.
- J. Finish painting after tests:
 - 1. After satisfactory completion of the tests, any damage to the paint work shall be made good and the installation re-cleaned, if necessary, after which at least one final coat of gloss oil resistant or enamelized paint shall be applied by brushing or spraying in Contractor's customary colors to all the existing and new equipment in the machine room and also to such items in the hoistway or elsewhere which have received only a primer coat.
 - 2. Painting shall be performed either during normal working hours or after hours at no additional cost to the Owner.
- K. Painting of machine room floor and pit floors:
 - 1. After the completion of the entire installation, the floor of each machine room and pit areas shall be thoroughly cleaned down and brush painted with one coat of traffic paint having oil resistant properties. Pit floors shall be painted after the completion of the waterproofing. Owner's Representative will advise the color.
 - 2. Painting shall be performed either during normal working hours or after hours at no additional cost to the Owner.

3.2 NOISE CONTROL

- A. General:
 - 1. Contractor, in the preparation and the execution of the work, shall recognize the particular and mandatory requirements of the remodeling project due to the character of the work and the use occupancy of the building.
 - 2. Contractor shall perform all noisy work as directed by Owner's Representative.

- B. Building operations:
1. Noise and vibration generated by this construction for this work may, at times, create a problem for the operations of the building. In the event the noise produced by the construction work conflicts with the building function, Contractor, at the request of the Owner's Representative, shall reduce or stop the noise.
 2. All disruptive work including removal of old materials and deliveries of new materials shall be done on overtime at no additional cost to Owner.
 3. All disruptive work will be performed after hours at no additional cost to Owner.
- C. Measurement:
1. The noise level shall be measured on the "A" Scale of a sound level meter as follows:
 - a. With the meter located 3' - 0" from the nearest staff work station to the elevator lobby, the sound level shall not exceed 65 db.
 - b. With the meter located 3' - 0" from outside of each machine room door at floor level, the sound level shall not exceed 70 db.
 - c. With the meter located 3' - 0" from any hoistway door at any level, the sound level shall not exceed 70 db.
- D. Types of noise generating work:
1. All heavy demolition (concrete walls and floors).
 2. All grinding, chipping, pounding, sanding and cutting of holes and core drilling.

3.3 FIELD QUALITY CONTROL

- A. Regulatory agencies inspection:
1. Upon completion of elevators, Contractor shall provide instruments, weights and personnel to conduct test required by regulatory agencies. Contractor shall submit a complete report describing the results of the tests.
- B. Examination and testing:
1. When installation is ready for final acceptance, notify and assist Owner's Representative in making a walk-through inspection of entire installation to assure workmanship and equipment complies with contract documents. Provide equipment to perform the following tests:
 - a. One-hour heat and run test with full load in car. Perform for one car of each duty.
 - 1) Stop car at each floor in each direction.
 - 2) Verify that temperatures do not exceed manufacturer's motor ratings.
 - 3) Performance and leveling tests shall be made before and after heat and run test.
 - b. Check and verify operation of all safety features and special operations.
 - 1) Measure horizontal acceleration.
 - 2) Measure acoustical output levels in machine room, lobbies and cars.
- C. Correction:
1. Make corrections to defects or discrepancies at no cost to Owner's Representative. Should discrepancies be such that re-examination and retesting is required, Contractor shall pay for all costs including those of Owner's Representative's fees.
- D. Final acceptance:
1. Final acceptance of the installation will be made only after all corrections are complete, final submittals and certificates received and the Owner's Representative is satisfied and the installation is complete in all respects.

3.4 INSTRUCTIONS

- A. Instruct Owner's personnel in proper use of each system.

3.5 PROJECT RECORD DOCUMENTS

A. As-built drawings:

1. Contractor shall maintain at the job site a separate and complete set of contract drawings which will be used solely for the purpose of recording changes made in any portion of the work during the course of construction, regardless of the reason for such change.
2. Changes, as they occur, will be marked on the record set of drawings on a daily basis.

B. Record drawings:

1. Contractor shall prepare "as-built" drawings in duplicate of any changes to electrical work on prints supplied by the Owner's Representative. During the course of construction, actual locations to scale shall be shown for all runs of mechanical and electrical work, installed in walls and floors or otherwise concealed. This shall cover all piping, electrical wiring; whether in conduit or cable, duct work, etc. shall be located, in addition, by dimension. All services shall be identified in ink on the prints.
2. In addition, Contractor shall keep a complete record copy of the plans and specifications for the use in preparing "as-built" plans and specifications at the end of the job. Contractor shall sign and date the prints and deliver them to the Owner's Representative.

END OF SECTION