



Office of Facilities and Planning
821 LaFayette St.
Collier Physical Plant
Jefferson City, MO 65101
573-681-5887

Request for Proposals

FRANK HALL LAB RENOVATIONS LINCOLN UNIVERSITY

**816 Chestnut Street
Jefferson City, Missouri 65101**

Lincoln's Project No: LU25005

February 16, 2026

PROJECT MANUAL
and
SPECIFICATIONS

FRANK HALL LAB RENOVATIONS
LINCOLN UNIVERSITY

816 Chestnut St.
Jefferson City, Missouri 65101

Lincoln's Project No: LU25005

Owner:
Lincoln University
820 Chestnut St., Young Hall
Jefferson City, MO 65101

Prepared by Lincoln University:

Facilities & Planning
Collier Physical Plant
821 LaFayette St.
Jefferson City, Missouri 65101
Telephone: (573) 681-5887

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NOTICE TO CONTRACTORS

Accepting Sealed bids for:

Lincoln University – FRANK HALL LAB RENOVATIONS – LU25005

**LINCOLN UNIVERSITY
JEFFERSON CITY, MISSOURI 65101**

Lincoln University will be accepting bids until 2:00 p.m., Friday, March 6, 2026. (Bid drop off location at the bottom)

Plans and specifications for the project may be requested after Wednesday, February 18, 2026, from the Office of Facilities and Planning. lufacilitiesplanning@lincolnu.edu (573) 681-5887.

A Pre-bid walkthrough for the project will be conducted on Friday, February 27, 2026, at 10:00 am. in **located at Frank Hall at 816 Chestnut Street Jefferson City, MO 65101.**

Attendance at the Pre-bid conference for instruction is mandatory of each bidder submitting a proposal.

Attn: Landyn Smith
Lincoln University
Facilities & Planning
Shipping, Receiving, Supply
1002 Chestnut St.
Jefferson City, MO 65101

SCOPE OF WORK

Lincoln University of Missouri is seeking qualified contractors to provide comprehensive renovation services for laboratory facilities located in Frank Hall. The project includes renovation of approximately 18 laboratory spaces, including the replacement and installation of 14 laboratory fume hoods, along with associated infrastructure upgrades.

The intent of this project is to modernize laboratory environments, improve safety and code compliance, enhance functionality, and extend the useful life of the facilities.

2. Project Components

A. Hazardous Materials Abatement

- Provide all labor, materials, equipment, testing, containment, and disposal required for asbestos abatement within identified laboratory areas.
- Coordinate pre-abatement surveys, air monitoring, and clearance testing.
- Ensure compliance with all federal, state, and local environmental regulations.
- Maintain proper documentation and disposal manifests.

B. Mechanical, Electrical, and Plumbing (MEP) Upgrades

Contractor shall provide complete MEP improvements necessary to support modern laboratory operations, including:

Mechanical:

- HVAC upgrades supporting laboratory ventilation requirements.
- Integration and commissioning of laboratory exhaust systems for fume hoods.
- Balancing and controls integration.

Electrical:

- Power distribution upgrades supporting laboratory equipment and fume hoods.
- Lighting replacement/upgrades where required.

Plumbing:

- Laboratory gas, water, waste, and specialty piping modifications as required.
- Connection and commissioning of lab sinks, safety equipment, and fume hood utilities.

C. Laboratory Fume Hood Installation

- Furnish and install approximately 14 laboratory fume hoods.
- Include associated ductwork, controls, exhaust systems, and commissioning.
- Coordinate with MEP upgrades to ensure proper performance and certification.
- Provide testing, balancing, and certification documentation.

D. Interior Architectural Renovations

Flooring:

- Removal of existing flooring as required.

- Installation of laboratory-appropriate flooring systems (chemical resistant, slip resistant where applicable).

Ceilings:

- Replacement of ceiling systems including grid, tiles, lighting integration, and access panels as needed.

Walls and Painting:

- Surface preparation, patching, and painting of laboratory spaces.
- Use coatings appropriate for laboratory environments.

Casework and Countertops:

- Furnish and install laboratory casework, cabinetry, and countertops.
- Materials shall meet durability, chemical resistance, and institutional standards.
-

3. General Requirements

- Maintain continuous coordination with university stakeholders throughout the project.
- Provide detailed project schedule, phasing plan, and safety plan.
- Comply with all applicable codes, OSHA standards, and university design guidelines.
- Minimize disruption to campus operations.
- Provide warranties, operation manuals, and closeout documentation.

4. Deliverables

- Construction schedule and phasing plan.
- Submittals and shop drawings.
- Testing and commissioning reports.
- As-built drawings and O&M documentation.
- Final inspection and acceptance documentation.

Projected Timeline

- **RFP Issued:** February 28, 2026
- **Proposal Submission Deadline:** March 6, 2026
- **Proposal Evaluation and Selection:** March 10, 2026
- **Notice of Award:** March 10, 2026
- **Project Start Date:** May 11, 2026
- **Completion Date:** August 8, 2026

PROPOSAL FORM

From: _____

Hereinafter called the "**Bidder**"

TO: Lincoln University
820 Chestnut Street, RM 309B Young Hall
Jefferson City, Missouri 65101

Hereinafter called the "**Owner**"

FOR: Frank Hall Lab Renovations - LU25005
Lincoln University
816 Chestnut St.
Jefferson City, MO 65101

Hereinafter called the "**Work**"

1. The undersigned, having examined and being familiar with the local conditions affecting the work and with the contract documents including the drawings, the Notice to Contractors, Instructions to Bidders, Statement of Bidder's Qualifications, General Conditions, Special Conditions and the body of technical specifications, including

Addenda number _____ through _____ inclusive,

As issued, by Lincoln University, Office of Facilities and Planning in Jefferson City, Missouri hereby proposes to furnish all labor, materials, equipment, services, etc. required for the performance and completion of the work, as follows:

2. In submitting this bid, it is understood that the right is reserved by Lincoln University to reject any and all bids and it is agreed that the bids may not be withdrawn for a period of 150 days from the specified time for receiving bids.
3. Accompanying this bid is a certified check or cashier's check in the amount of _____ Dollars (\$_____) or a 5% bid bond payable without condition to Lincoln University, State of Missouri, which it is agreed shall be retained as liquidated damages for the delay and extra expense caused Lincoln University if the undersigned fails to execute the contract and furnish the Performance/Payment bond required by the contract documents.
4. The Bidder agrees to complete the work required within 120 consecutive Calendar days from the date on which he receives a written "Notice to Proceed", and Further agrees to pay to, or allow Lincoln University as liquidated damages the sum of \$1000 Dollars for each calendar day thereafter, Sundays and holidays accepted that the work remains complete.
5. The Bidder agrees to pay not less than the hourly rate of wages as determined by the Department of Labor and Industrial Relations, State of Missouri, in accordance with Section 290.210 to 290.340 as amended RSMo 1978 Annual Wage Order 31.
6. The Bidder hereby certifies that all business and/or individuals employed on this Project are enrolled in the Federal Work Authorization Program as required by RSMo 285.525 and 285.530 and shall submit the Affidavit of Work Authorization along with this bid as discussed in the specifications.
7. The Bidder hereby certifies that the following subcontractors will be used in the Performance of the work
- | Name and Address of Subcontractor | Work to be performed (if none, so state) |
|-----------------------------------|--|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
8. The Bidder hereby certifies:

That this proposal is genuine and is not made in the Interest of or on behalf of any undisclosed person, firm or corporation, and is not submitted in conformity with any agreement or rules of any group, association or corporation.

That they have not directly or indirectly induced or solicited any other bidder
To put in a false or sham proposal:

That they have not solicited or induced any person, firm or corporation to refrain from bidding:

That they have not sought by collusion or otherwise to obtain for themselves and advantage over any other bidder or over the Owner: and

That they will not discriminate against any employee or application for employment because of race, creed, color or national origin in connection with the performance of the work.

Dated this _____ day of _____, 20____

IF AN INDIVIDUAL / PARTNERSHIP / CORPORATION

Name of Firm / Partnership / Corporation

Individual / Partner / Name and Title of Officer

Signature

Additional Partner

Address of Communications

(Each bidder must complete the Proposal Form by signing on the proper signature line above and by supplying the required information called for in connection with the signature.)

Sealed bids will be received at:

**Landyn Smith
Lincoln University
Facilities & Planning
Shipping, Receiving, Supply
1002 Chestnut St.
Jefferson City, MO 65101**

BID SHEET

Base Bid Pricing

Laboratory Fume Hoods (14 Total — All Locations Lump Sum)

Base Bid Amount: \$ _____

Laboratory Renovations (Provide Individual Pricing Per Lab)

(Include abatement, MEP upgrades, flooring, ceilings, paint, casework, countertops, and associated work unless noted otherwise.)

Lab 103 — \$ _____
Lab 104 — \$ _____
Lab 105 — \$ _____
Lab 106 — \$ _____
Lab 109 — \$ _____
Lab 110 — \$ _____
Lab 110A — \$ _____
Lab 111 — \$ _____
Lab 121 — \$ _____
Lab 122 — \$ _____
Lab 123 — \$ _____
Lab 124 — \$ _____
Lab 210 — \$ _____
Lab 211 — \$ _____
Lab 212 — \$ _____
Lab 213 — \$ _____
Lab 226 — \$ _____
Lab 320 — \$ _____
Lab 321 — \$ _____
Lab 330 — \$ _____

Total Base Bid

Total Lump Sum Bid:

\$ _____

Contractor Information

Company Name: _____

Authorized Representative: _____

Signature: _____ Date: _____

Phone / Email: _____

LU CONTRACTOR'S QUALIFICATIONS

Name of Firm

Address with Zip Code

Date

Area Code and Telephone/Fax

Corporation or Partnership or Individual

CONSTRUCTION CAPABILITIES:

General roadway construction, parking lot paving and striping Other _____

FOR CORPORATION ONLY Federal I.D. Number _____

Date of incorporation Name of State(s) in which incorporated.

If not incorporated in Missouri, give Certificate of Authority to do business in Missouri.
Certificate No. _____ Date _____.

President's Name

Vice President's Name

Secretary's Name

Treasurer's name

FOR PARTNERSHIP ONLY

Is the Partnership: General Limited Association

Date of Organization: _____

Names and addresses of all partners with zip codes.

GENERAL INFORMATION

Federal I.D. Number _____

or Social Security Number _____

Percent (%) of work done by own staff

No. of permanent employees.

Geographical limits of operation

No. years in business

If you have done business under different name, please give name and location.

Has firm ever failed to complete project or default on a contract?

If so, state where and why. _____

Has firm ever been engaged in litigation over any contract?

If so, explain. _____

WORK HISTORY

LIST OF PROJECTS CURRENTLY UNDER CONSTRUCTION, INCLUDING COST OF EACH AND NAME AND ADDRESS OF OWNER CONTACT.

LIST OF COMPLETED PROJECTS WITHIN PAST FOUR YEARS, INCLUDING COST OF EACH AND NAME AND ADDRESS OF OWNER CONTACT.

PARTIAL RECEIPT OF PAYMENT AND RELEASE FORM

KNOW ALL PERSONS BY THESE PRESENTS THAT: _____,

hereinafter called "Subcontractor," who entered into a subcontract with

_____, hereinafter called "Contractor", for the performance of work
and/or the furnishing of material for the construction of a project entitled:

(Project Name)

(Project Number)

at: _____

(Project Address)

for the State of Missouri (Owner) which said subcontract is by this reference incorporated herein, in consideration of

such payment by Contractor,

DOES HEREBY:

1. ACKNOWLEDGE that he/she has been paid all sums due them to date for everything done by him, or done by his subcontractors, material vendors, equipment and fixture suppliers, agents and employees, or otherwise in the performance of the work called for by the aforesaid contract and all modifications or extras or additions approved to date, for the construction of said project or otherwise.
2. REPRESENT that all of his/her employees, subcontractors, material vendors, equipment and fixture suppliers and everyone else has been paid all sums due them to date, or any of them, in connection with performance of said work, or anything done or omitted by them or any of them in connection with the construction of said improvements, or otherwise.
3. RELEASES the Owner from any claim for nonpayment for any work performed or material supplied up through _____(date).

DATED this _____ day of _____, _____(year).

(Name of Subcontractor)

(Typed or Printed Name)

(Signature)

(Title)

LU FINAL RECEIPT OF PAYMENT AND RELEASE FORM

KNOW ALL PERSONS BY THESE PRESENT THAT :

Hereinafter called "Subcontractor" who heretofore entered a subcontract with

hereinafter called "Contractor" for the performance of work and/or furnishing of material for the construction
of a project entitled:

(Project title & Project number)

(Address of Project)

for Lincoln University, (Owner) which said subcontract is by this reference incorporated herein, in
consideration of such final payment by Contractor, DOES HEREBY:

1. ACKNOWLEDGE that the Contractor has been paid in full all sums due to the Contractor for everything done by the Contractor, or done by subcontractors, material vendors, equipment and fixture suppliers, agents and employees, or otherwise in the performance of the work called for by the aforesaid contract and all modifications of extras or additions thereto, for the construction of said project or otherwise.
2. RELEASE and fully, finally and forever discharge Contractor and the Owner of and from any and all suits and actions, claims and demands of whatsoever kind or character arising out of or in any manner related to anything and everything done or omitted by Subcontractor, its subcontractors, material vendors, equipment and fixture suppliers, agents and employees, in the performance of or connected with its/their performance of said work, or otherwise.

REPRESENT that all employees, subcontractors, material vendors, equipment and fixture suppliers and everyone else has been paid in full all sums due them, or any of them, in connection with performance of said work, or anything done or omitted by them or any of them in connection with the construction of said improvements, or otherwise.

DATED THIS _____ day of _____, 20____

(Name of subcontractor)

BY _____
(Typed or printed name)

(Signature)

TITLE: _____

AFFIDAVIT OF COMPLIANCE WITH PREVAILING WAGE LAW

I, _____ do hereby certify under penalty of perjury:

Project Name: _____

- 1) That all of the information in the payroll reports for this project is true and correct.
- 2) All Persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly from the full wages earned by any person, other than permissible deductions such as FICA, Medicare, Federal Income Taxes, State Income Taxes, State Disability (SDI) Court Ordered Wage Attachments, 401K Plans.
- 3) That any payrolls otherwise under this contract required to be submitted for the project are correct and complete; that the wage rate for the workers are not less than the applicable wage rates contained in the Prevailing wage determination, as provided by the Division of Labor Standards and incorporated into the contract; that the classifications set forth therein for each worker conform with the work performed.

DATED THIS _____ day of _____, 20__

(Name of Contractor)

BY _____
(Typed or printed name)

(Signature)

TITLE: _____

FORM OF PERFORMANCE AND PAYMENT BOND

KNOW PERSONS BY THESE PRESENT, THAT we _____ as Principal, and
_____ as Surety, are held and firmly bound unto LINCOLN
UNIVERSITY, in the sum of _____ Dollars (\$_____), for payment whereof
the Principal and Surety bind themselves, their heirs, executors, administrators and successors, jointly and
severally, firmly by these presents WHEREAS, The Principal has, by means of a written agreement dated the
_____ day of _____, 20____,
entered into a contract with LINCOLN UNIVERSITY for _____

(Insert Base Proposal)

NOW, THEREFORE, if the Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said contract during the original term of said contract and any extension thereof that may be granted by Lincoln University, with or without notice to the Surety and during the life of any guaranty required under the contract; and shall also faithfully perform and fulfill all undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made with or without notice to the Surety; and shall also promptly make payment for material, lubricants, oil, gasoline, grain, hay, feed, coal and coke, repairs on machinery, groceries and food stuffs, equipment, and tools, consumer or used in connection with the work set forth in the contract referred to above, and all insurance premiums, both compensation and all other kinds of insurance, on said work, and for all other kinds of insurance, on said work, and for all labor performed on such work, whether by subcontractor or otherwise, at not less than the prevailing hourly rate of wages for work of a similar character (exclusive of maintenance work) in the locality in which the work is performed and not less than the prevailing hourly rate of wages for legal holiday and overtime work (exclusive of maintenance work) in the locality in which the work is performed both as determined by the Department of Labor and Industrial Relations or determined by the Court on appeal, as provided for in said contract and in any and all duly authorized modifications of said contract that may be hereafter made, with or without notice to the Surety, then this obligation shall be void and of no effect, but it is expressly understood that if the Principal should make default in or should fail to strictly, faithfully and efficiently do, perform and comply with any or more of the covenants, agreements, stipulations, conditions, requirements or undertakings, as specified in or by the terms of said contract, and with the time therein named, then this obligation shall be valid and binding upon each of the parties hereto and this bond shall remain in full force and effect; and the same may be sued on at the instance of any material man, laborer, mechanic, subcontractor, individual, or otherwise to whom such payment is due in the name of Lincoln University, to the use of any such person.

AND, IT IS FURTHER specifically provided that any modifications which may hereinafter be made in the terms of the contract or in the work to be done under it or the giving by the Owner of any extension of the time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal to the other, shall not in any way release the Principal and the Surety, or either or any of them, their heirs, executors,

Form of Performance and Payment Bond

administrators and successors, from their liability hereunder, notice to the Surety of any such extension, modifications or forbearance being here waived.

IN WITNESS WHEREOF, the above bounden parties have executed the within instrument this _____ day of _____, 20____.

AS APPLICABLE:

A. An Individual _____
(Signature)

B. A Partnership _____
(Signature) Partner

(Signature) Partner

C. A Corporation _____
(Firm Name)

(Signature) President

D. Surety _____
(Surety)

(Attorney-in-Fact)

(Address of Attorney-in-Fact)

(A/C & Number)
(Telephone and Fax #, Attorney-in-Fact)

(Signature, Attorney-in-Fact)

NOTE: Surety shall attach Power of Attorney

LU AFFIDAVIT OF WORK AUTHORIZATION

STATE OF _____)

COUNTY OF _____)

On this _____ day of _____, 20_____, before me appeared. _____, personally, known to me or proved to me based on satisfactory evidence to be a person whose name is subscribed to this affidavit, who being by me duly sworn, deposed as follows:

My name is _____, and I am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 285.530, RS Mo, to enter into any contract agreement with the state to perform any job, task, employment, labor, personal services, or any other activity for which compensation is provided, expected, or due, including but not limited to all activities conducted by business entities:

I am the _____ of _____, and I am duly authorized, directed, and/or empowered to act officially and properly on behalf of this business entity.

I hereby affirm and warrant that the business entity is enrolled in a federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, and the business entity shall participate in said program with respect to all employees working in connection with the contracted services related to the work performed for Lincoln University. I have attached documentation to this affidavit to evidence enrollment/participation by the business entity in a federal work authorization program, as required by Section 285.530, RS Mo.

In addition, I hereby affirm and warrant that the business entity does not and shall not knowingly employ, in connection to work under the within state contract agreement with Lincoln University an alien who does not have the legal right or authorization under federal law to work in the United States, as defined in 8 U.S.C. § 1324a(h)(3).

I am aware and recognize that, unless certain contract and affidavit conditions are satisfied pursuant to Section 285.530, RS Mo, the business entity may be held liable under Section 285.525 through 285.559, RS Mo, for subcontractors that knowingly employ or continue to employ any unauthorized alien to work within the state of Missouri.

I acknowledge that I am signing this affidavit as a free act and deed of the business entity and not under duress.

Affidavit Signature

Subscribed and sworn to before me this _____ day of _____, 20 ____.

Notary Public

My commission expires:

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - SPECIAL NOTICE TO BIDDERS

These specifications have bound hereto a complete set of bidding forms. These are for the bidder's convenience only and are not to be detached from the specifications or filled out or executed. One unbound proposal form will be furnished to each bidder and shall be executed and submitted in a sealed envelope.

ARTICLE 2 - CONTRACT DOCUMENTS

- A. Specifications and drawings are the property of the Owner. Electronic copies will be distributed by the owner as requested by the contractors bidding the job. All copies must be destroyed or deleted by those contractors not selected for the job once the bidding process has completed.
- B. Electronic copies of drawings and specifications are on file at the Office of Facilities and Planning, 821 LaFayette St. , Lincoln University.

ARTICLE 3 - BIDDERS OBLIGATIONS

- A. Bidders must carefully examine the entire site of the work and shall make all necessary investigations to inform themselves thoroughly as to the facilities available as well as to all the difficulties involved in the completion of all work in accordance with the specifications and plans. Bidders are also required to examine all maps, plans and data mentioned in the specifications. No plea of ignorance of conditions that exist, or that may hereafter exist, or of conditions of difficulties that may be encountered in the execution of the work under this contract will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every detail all the requirements of the contract, nor accepted as a basis for any claims for extra compensation.
- B. Under no circumstances will a Contractor give plans and specifications to another Contractor. Any proposal received from a Contractor whose name does not appear on the list of bidders having made deposit for the plans and specifications will be subject to rejection.

ARTICLE 4 - INTERPRETATIONS

- A. No oral interpretations will be made to any bidder as to the meaning of the Plans and Specifications or the acceptability of alternate products, materials, form, or type of construction. Every request for interpretation shall be made in writing and submitted with all supporting documents not less than seven (7) calendar days before opening of bids. The request shall be sent directly to the Project Consultant. A copy of said request shall be mailed concurrently to the Director of Facilities and Planning, 309 Young Hall, Lincoln University, 820 Chestnut St., Jefferson City, Missouri 65101. Every interpretation made to a bidder will be sent as promptly as is practicable to all persons to whom Plans, and Specifications have been issued. All such addenda shall become part of the contract documents.

ARTICLE 5 - PROPOSALS AND BIDDING PROCEDURES

- A. All proposals shall be submitted without modification or reservation on the proposal form with each space properly filled. Proposals not on this form will be rejected. Modifications of the proposals after delivery to the Director of Facilities and Planning will not be accepted unless submitted on a new proposal form and delivered to the Director of Facilities and Planning in lieu of the original proposal prior to the time set for opening bid proposals.
- B. All proposals shall be accompanied by a Bid Bond, executed by the bidder and a duly authorized surety company, Certified Check, Cashier's Check or Bank Draft made payable to Lincoln University, State of Missouri, in the amount as set forth in the official advertisement for bid. Failure of the Contractor to submit the full amount required shall be sufficient cause to reject bid. The bidder agrees that the proceeds of the check, draft or bond shall become the property of Lincoln University, if for any reason the bidder withdraws bid after closing or if on notification of award refuses or is unable to execute tendered contract, provide an acceptable Performance and Payment Bond, provide evidence of required insurance coverage, and provide required copies of affirmative action plans within fourteen (14) consecutive calendar days after such tender. It is further agreed that, if a contract is not awarded within thirty (30) days after the opening of bids, a bidder may file a written notice with the Director of Facilities and Planning for the withdrawal of bid.
- C. The check, draft or bond submitted by the successful bidder will be returned after the receipt of an acceptable Performance and Payment Bond and execution of formal contract. Checks, drafts, or bonds of all other bidders will be returned within

a reasonable time after it is determined that the bid represented by same will receive no further consideration by Lincoln University.

- D. All proposals shall be accompanied by a signed and notarized Affidavit of Work Authorization. As part of RSMo 285.525 and 285.530 require business entities to enroll and participate in a federal work authorization program to be eligible to receive award of any state contract more than \$5,000.

ARTICLE 6 - SIGNING OF THE PROPOSAL

- A. Proposals from a partnership shall be signed in the firm name by at least one partner, or in the firm name by Attorney-in-Fact. If signed by Attorney-in-Fact there shall be attached to the proposal a Power of Attorney evidencing authority to sign the proposal, dated and executed by all partners of the firm.
- B. Proposals from a corporation shall have the correct corporate name thereon and the signature of an authorized officer of the corporation manually written below the corporate name followed by the words "By _____". Title of office held by the person signing for the corporation shall appear below the signature of the officer.
- C. Proposals from an individual doing business under a firm name shall be signed in the name of the individual doing business under the proper firm's name.

ARTICLE 7 - RECEIVING BIDS

- A. Bids received prior to the time of opening will be securely kept, unopened. The office whose duty is to receive bids will decide when the specified time for opening bids has arrived, and no bid received thereafter will be considered. No responsibility will attach to any officer for the premature opening of a bid not properly submitted.
- B. Proposals are to be presented in sealed envelopes that shall be plainly marked with Project Title, Bid Date and Bid Time and delivered to the place specified in the Advertisement for Bids. Bidders shall be responsible for actual delivery of proposals during business hours, and it shall not be sufficient to show that a proposal was dispatched in time to be received before scheduled closing time for receipt of proposal.
- C. Bidders are cautioned to allow ample time for transmittal of bids by mail or otherwise. If bid is mailed, bidder should secure correct information relative to the probable time of arrival and distribution of mail at the place where bid is to be received and make-do allowance for possible delays.
- D. No Contractor shall stipulate in proposal any conditions not contained in the specifications or standard proposal form contained in the contract documents.

- E. Proposals will be received separately or in combination as shown in and required by the Form of Proposal. Proposals will be completed to include insertion of all amounts for alternate proposals, unit prices and cost accounting data, etc. Failure to complete all required information may be cause for rejection of bid.
- F. Bidder's attention is directed to the fact that no bid will be accepted or considered if delivered after the specified time for receiving bids.
- G. No telephonic or total telegraphic bids will be accepted or allowed.
- H. The completed forms shall be without interlineations, alteration, or erasure. Contractor may request additional copies of forms.
- I. The Owner reserves the right to waive informalities in proposals and reject any or all proposals.

ARTICLE 8 - MODIFICATION AND WITHDRAWAL OF BIDS

- A. Bidder may withdraw proposal at any time prior to scheduled closing time for receipt of proposals, but no bidder may withdraw proposal after the scheduled closing time for receipt of bids.
- B. Only telegrams, letters and other written requests for modifications or correction of previously submitted proposals, which are addressed in the same manner as proposals and are received by Owner prior to scheduled closing time for receipt of proposals, will be accepted and the proposal corrected in accordance with such written requests with the following provisions:
 - (a) Any such written request must be contained in a sealed envelope which is plainly marked "Modification of proposal on (project title and bid date)".
 - (b) Telegraphic modifications must be received prior to the bid opening time.
 - (c) Telegraphic modifications must be followed by a written notice from the bidder within forty-eight (48) hours after bid opening time confirming the contents of such telegraphic modification.

ARTICLE 9 - STATEMENT OF BIDDERS QUALIFICATIONS

- A. Each bidder must submit as part of bid proposal, a statement of bidder's qualifications which is a part of the proposal form. The Owner shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner such additional information and data for this purpose as the Owner may request. The right is reserved to reject any bid where an investigation or consideration of the information

submitted by such bidder does not satisfy the Owner that the bidder is qualified to carry out properly the terms of the contract documents.

ARTICLE 10 - AWARD OF CONTRACT

- A. The Owner reserves the right to reject any and/or all bids and further to waive all informalities in bidding when deemed in the best interest of Lincoln University.
- B. The Owner reserves the right to let other contracts in connection with the work, including but not by way of limitation, contracts for the furnishing and installation of furniture, equipment, machines, appliances, and other apparatus.
- C. In awarding the contract the Owner may take into consideration the bidder's skill, facilities, capacity, experience, responsibility, previous work record and financial standing; and the necessity of prompt and efficient completion of work herein described. Inability of any bidder to meet the requirements mentioned above may be cause for rejection of proposal, however, no contract will be awarded to any individual, partnership or corporation, who has had a contract with the State of Missouri declared in default within the preceding twelve months.
- D. Award of Alternates, if any - the Owner reserves the right to award alternates in any order which results in the maximum amount of work being accepted within available construction funds.
- E. RSMo 285.525 and 285.530 require business entities to enroll and participate in a federal work authorization program to be eligible to receive award of any state contract more than \$5,000. Bidders should submit with their bid an Affidavit of Work Authorization along with appropriate documentation evidencing such enrollment and participation. Affidavit of Work Authorization is in the bid packet. Submittal of this form and appropriate documentation is required before the award of any contract. In addition, the contractor shall be responsible for compliance of these requirements by all subcontractors and suppliers, at any tier associated with this contract.

ARTICLE 11 - FORM OF CONTRACT AND PERFORMANCE/PAYMENT BOND

- A. The forms of the contract and performance/payment bond to be executed are standard forms which are on file with the Office of the Director of Facilities and Planning. The contract and performance/payment bond shall be executed in ten (10) and five (5) original counterparts, respectively.
- B. The Owner will prepare and forward copies of the contract and performance/payment bonds to the bidders to whom the contracts for the work are awarded and such bidders shall return the properly executed prescribed copies of

the contract, bond, evidence of required insurance and required copies of affirmative action plans to the Owner within fourteen (14) consecutive calendar days after their receipt.

- C. No proposal shall be considered binding upon the Owner until the written contract has been properly executed, a satisfactory bond has been furnished, evidence of required insurance coverage has been received and appropriate affirmative action plan submitted. Failure to execute and return the contract and associated documents within the prescribed period shall be treated, at the option of the Owner, as a breach of bidder's obligation and the Owner shall be under no further obligation to bidder.
- D. If the successful bidder is doing business in the State of Missouri under a fictitious name, bidder shall furnish to Owner, attached to the Proposal Form, a properly certified copy of the Certificate of Registration of Fictitious Name from the State of Missouri, and such certificate shall remain on file with the Owner. No contract will be awarded by the Owner until such certificate is furnished by the bidder.
- E. Any successful bidder which is a corporation organized in a state other than Missouri shall furnish to the Owner, attached to the Proposal Form, a properly certified copy of its current Certificate of Authority to do business in the State of Missouri, such certificate to remain on file with the Owner. No contract will be awarded by the Owner unless such certificate is furnished by the bidder.
- F. Any successful bidder which is a corporation organized in the State of Missouri shall furnish, at its own cost, to the Owner, if requested, a Certificate of Good Standing issued by the Secretary of State, such certificate to remain on file with the Owner.

ARTICLE 12 - CONTRACT SECURITY

- A. The Contractor shall furnish a performance/payment bond in an amount at least equal to 100% of the contract price as security for the faithful performance of contract and for the payment of all persons performing labor on the project and furnishing materials in connection therewith under contract as set forth in the standard form of performance/payment bond. The Surety on such bond shall be a duly authorized surety company satisfactory to the Owner.
- B. The Contractor shall furnish at no cost to the Owner, if requested, a properly certified copy of the current Certificate of Authority to transact business in the State of Missouri of the surety company executing the required bond, such certificate to remain on file with the Owner.
- C. If at any time the Owner, for justifiable cause, shall be or become dissatisfied with any surety or sureties then upon the performance/payment bond, the Contractor shall within five (5) days after notice from the Owner substitute an acceptable bond signed by such other surety or sureties as may be satisfactory to the Owner. The

premiums on such bond shall be paid by the Contractor. No further payments shall be due nor made until the new acceptable bond is furnished to the Owner.

ARTICLE 13 - TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. Bidders must agree to commence work on a date to be specified in a written "Notice To Proceed" from the Owner, and the entire work shall be completed within the time specified. Liquidated damages for delay in completion of the work shall be as prescribed. (See Article 14 of General Conditions.)

ARTICLE 14 - NUMBER OF CONSTRUCTION DOCUMENTS

- A. The Owner will furnish the Contractor a copy of the executed contract.
- B. The Owner will furnish the Contractor free of charge the number of complete sets of plans and specifications for the work and all applicable subdivisions thereof, as set forth in the special conditions. Additional sets may be obtained from the Consultant at the cost of reproduction.
- C. The Owner will furnish the Contractor the number of copies of explanatory or change drawings required during construction as set forth in the special conditions

ARTICLE 15 - LIST OF SUBCONTRACTORS

- A. Each bidder must submit as part of bid proposal, a list of subcontractors to be used in performing the work. The list shall specify the single designated subcontractor's name and address for each category of work listed in the Proposal Form. If work within a category will be performed by more than one subcontractor, list the name and address of each subcontractor, and specify the exact portion of the work to be done. If acceptance/nonacceptance of alternates will affect the designation of a subcontractor, provide information for each affected category.
- B. Failure to include a complete subcontractor list shall be grounds for rejection on the bid proposal.

ARTICLE 16 - TAX EXEMPTION

- A. Lincoln University is a tax-exempt organization. Sales to contractors who purchase construction materials and supplies to fulfill their contract for exempt organizations are not subject to sales tax provided the exempt organizations furnish a copy of their current exemption letter and a project exemption certificate to the contractor

authorizing the purchases for the project. The exempt organization may monitor all supplies purchased, used, and consumed in fulfilling the project.

- B. A project exemption certificate shall include, but may not be limited to, the following:
 - 1. The exempt entity's name, address, Missouri Tax Identification Number and signature or authorized representative of the exempt entity.
 - 2. The project location, description, and unique identification number.
 - 3. Date the contract is entered.
 - 4. The estimated project completion date; and
 - 5. The certificate expiration date.
- C. Contractor must provide a copy of the exempt organization's exemption letter and the project exemption certificate to suppliers when purchasing materials and supplies to be consumed in the project.
- D. Contractors are not exempt from sales tax on the purchase of machinery, equipment or tools used in fulfilling these contracts.
- E. Suppliers shall render to the contractor invoices bearing the name of the exempt organization and the project identification number. The purchasing contractor must retain these invoices for a period of five (5) years.
- F. Contractors must file a sales tax return for all excess resalable materials and supplies, which are not returned to the supplier. This return must be filed and paid no later than the due date of the contractor's sales tax return following the month in which the contractor determines that the materials were not used in the project.
- G. An exempt organization that fails to revise the project exemption certificate's expiration date as necessary to complete the work required by the contract will be liable for any sales tax due as determined by an audit of the contractor.

ARTICLE 17 –TOBACCO POLICY

- A. Lincoln University strives to present a healthy, safe, and clean campus. environment for its students, employees, and visitors. For this reason, the use of any tobacco product, including but not limited to cigarettes, smokeless tobacco, and e-cigarettes is prohibited on campus. This policy applies to all buildings on and off the main campus whether owned or leased by Lincoln University, University vehicles, open-air spaces, and common areas.

SPECIFICATIONS

1.01 SUMMARY

Provide all labor, materials, equipment, and supervision necessary for installation of resinous epoxy flooring systems in laboratory renovation areas, including surface preparation, moisture mitigation (if required), base coats, broadcast media, topcoats, and integral cove base where indicated.

1.02 RELATED WORK

- Hazardous materials abatement
- Concrete preparation and repairs
- Laboratory casework installation
- Mechanical and plumbing penetrations

1.03 REFERENCES

Comply with latest adopted editions of:

- International Building Code (IBC)
- International Fire Code (IFC)
- OSHA 29 CFR 1910 Laboratory Safety Standards
- ASTM D4060 – Abrasion Resistance
- ASTM D2047 – Slip Resistance
- ASTM F2170 – Concrete Moisture Testing
- NFPA 101 Life Safety Code

1.04 SUBMITTALS

- Manufacturer technical data sheets
- Shop drawings showing flooring extents
- Slip resistance certification
- Maintenance data
- Warranty documentation

1.05 QUALITY ASSURANCE

- Installer minimum 5 years documented experience with resinous flooring.
- Manufacturer-approved installer required.
- Pre-installation conference required.

1.06 WARRANTY

Provide minimum **5-year material and installation warranty.**

PART 2 — PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

Epoxy flooring system shall be:

Sherwin-Williams General Polymers Epoxy Flooring System

(or approved equal meeting all performance criteria)

2.02 SYSTEM PERFORMANCE REQUIREMENTS

- Chemical resistant for laboratory environments

- Slip resistant finish (minimum 0.6 SCOF wet)
- Impact resistant
- Abrasion resistant
- Seamless, non-porous system
- Moisture-tolerant primer where required

2.03 SYSTEM COMPONENTS

- Primer coat compatible with substrate
- 100% solids epoxy base coat
- Aggregate broadcast (if specified)
- Chemical-resistant topcoat
- Integral cove base at vertical transitions (4" typical unless noted)

Color selections to be finalized by Owner.

PART 3 — EXECUTION

3.01 PREPARATION

- Concrete substrate to be mechanically prepared via shot blasting or grinding.
- Remove contaminants, laitance, coatings, oils.
- Patch cracks and defects.

3.02 INSTALLATION

Install per manufacturer's written instructions including:

- Proper mixing ratios
- Environmental conditions control
- Cure times
- Thickness requirements

3.03 FIELD QUALITY CONTROL

- Verify substrate moisture conditions
- Adhesion testing as required
- Final inspection prior to acceptance

SECTION 09 91 23 — INTERIOR PAINTING (LABORATORY ENVIRONMENTS)

PART 1 — GENERAL

1.01 SUMMARY

Provide all labor, materials, surface preparation, priming, and painting for laboratory interior surfaces.

1.02 REFERENCES

- IBC and IFC requirements
- MPI (Master Painters Institute) Standards
- ASTM D2486 – Scrub Resistance
- OSHA Indoor Air Quality Guidelines

PART 2 — PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

Interior wall coatings shall be:

Sherwin-Williams Pro Industrial Tuff-Scuff Waterborne Acrylic Coating
(or approved equal)

2.02 PERFORMANCE REQUIREMENTS

- High durability in high-traffic institutional environments
- Scrub and abrasion resistance suitable for laboratories
- Low VOC compliant with LEED/ASHRAE standards
- Washable, stain-resistant finish
- Chemical splash resistance where applicable

2.03 PRIMERS

Provide manufacturer-recommended primer appropriate for substrate:

- Gypsum board
- Masonry
- Previously painted surfaces
- Metal surfaces

PART 3 — EXECUTION

3.01 SURFACE PREPARATION

- Clean all surfaces of dust, grease, and contaminants
- Repair drywall defects and patch surfaces
- Sand glossy surfaces before coating
- Remove loose coatings

3.02 APPLICATION

- Apply coatings per manufacturer instructions
- Minimum two finish coats unless coverage achieved earlier
- Maintain proper temperature and humidity conditions

3.03 PROTECTION AND CLEANUP

- Protect adjacent finishes and equipment
- Remove drips, overspray, debris
- Leave surfaces clean and ready for occupancy

ADDITIONAL CODE REQUIREMENTS FOR LAB RENOVATIONS

(Good to include in Division 01 or General Requirements)

Safety & Compliance

- ADA accessibility compliance (ADAAG)
- Laboratory ventilation per ASHRAE 62.1 and ANSI Z9.5
- Fire-rated assemblies maintained where applicable
- Emergency egress maintained during construction
- Chemical-resistant materials where required
- OSHA Hazard Communication compliance

Environmental Requirements

- Low VOC materials preferred
- Proper hazardous waste disposal documentation
- Air quality protection during construction

LU GENERAL CONDITIONS

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GENERAL CONDITIONS

- A. These General Conditions apply to each section of these specifications and must be carefully read by each contractor, as all contractors are subject to the provisions contained herein.
- B. The General Conditions are intended to define the relationship of the Owner, Consultant and all contractors thereby establishing certain rules and provisions governing the operation and performance of the work so that the work may be continued and completed in a safe, orderly, expeditious and workmanlike manner.

ARTICLE 1 - DEFINITIONS

- A. As used in these contract documents, the following terms shall have the meanings and refer to the parties designated in these definitions.
 - (a) "OWNER": Lincoln University. Owner may act through any duly authorized committee or representative thereof. Communications to Owner shall be forwarded via Director of Facilities and Planning, Lincoln University, Room 309 Young Hall, 820 Chestnut Street, Jefferson City, Missouri 65101.
 - (b) "CONSULTANT": When the term "Consultant" is used herein, it shall refer to the Architect or Engineer specified and defined in Paragraph 1 of the Special Conditions, or a duly authorized representative.
 - (c) "UNIVERSITY REPRESENTATIVE": University Representative is the Director of Facilities Planning of Lincoln University; or such person authorized to act for the Director, shall be the authorized representative of the Owner.
 - (d) "CONTRACTOR": Party or parties who have entered into a contract with the Owner to furnish work under these specifications and drawings.
 - (e) "SUBCONTRACTOR": Party or parties who contract under, or for the performance of part or all of, the Contract between the Owner and Contractor. The subcontract may or may not be direct with the Contractor.
 - (f) "WRITTEN NOTICE": Any notice to the Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and service thereof complete when said notice is posted by registered or certified mail to said Contractor at Contractor's last given address, or delivered in person to said Contractor or authorized representative on the work.
 - (g) "WORK": Labor, material, supplies, plant and equipment required to perform and complete the service agreed to by the Contractor in safe, expeditious, orderly and workmanlike manner so that the project shall be complete and finished in the best manner known to each respective trade.

- (h) "CONTRACT DOCUMENTS": The "Contract Documents" shall consist of the executed contract, the Special Conditions, the General Conditions, the Advertisement for Bids, the Instructions to Bidders, the Proposal, the Prevailing Wage Determination, the Specifications and Drawings, including all modifications as set forth in Addenda or Change Orders to any of the above, the required Certificates of Insurance and Performance/Payment Bond and Notice to Proceed.
- (i) "JOINT VENTURE": An association of two (2) or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge.
- (j) "KANSAS METROPOLITAN AREA" The City of Kansas City and the Missouri counties of Ray, Platte, Jackson, Cass and Clay.
- (k) "ST. LOUIS METROPOLITAN AREA": The City of St. Louis and the Missouri counties of Franklin, St. Charles, St. Louis and Jefferson.
- (l) "SUBSTANTIALLY COMPLETE:" Substantial Completion is the stage in the progress of the work when the work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the work for its intended use.

ARTICLE 2 - DRAWINGS AND SPECIFICATIONS

- A. Drawings are intended to show general arrangements, design and extent of work and are partly diagrammatic. As such, they are not intended to be scaled for roughing-in measurements or to serve as shop drawings.
- B. Specifications are separated into titled divisions for convenience of reference only and to facilitate letting of contracts and subcontracts. Such separations shall not, however, operate to make the Consultant or Owner an arbiter to establish limits of subcontracts or to establish jurisdiction.
- C. Figured dimensions take precedence over scaled measurements and details over smaller scale general drawings.
- D. In case of discrepancy between drawings and specifications, specifications shall govern. Should discrepancies in architectural drawings, structural drawings and mechanical drawings occur, architectural drawings shall govern and, in case of conflict between structural and mechanical drawings, structural drawings shall govern.
- E. Anything shown on drawings and not mentioned in these specifications or vice versa, as well as any work which is obviously necessary to complete the project within the limits established by the drawings and specifications, although not shown on or described therein, shall be performed by the Contractor as a part of the contract.

- F. Data concerning lot size, ground elevations, present obstructions on or near the site, locations and depth of sewers, conduits, pipes, wires, etc., position of sidewalks, curbs, pavements, etc., and nature of ground and subsurface conditions have been obtained from sources the Owner believe reliable, although accuracy of such data is not guaranteed.
- G. Upon encountering conditions differing materially from those indicated in the contract documents, the Contractor shall promptly notify the University Representative before such conditions are disturbed. The University shall promptly investigate said conditions and report to the University Representative, with recommendations. If conditions do materially differ and cause increase or decrease in contract cost or time required for completion of any portion of the work, a Change Order will be initiated as outlined in Article 26 of these General Conditions.
- H. Only work included in the contract documents is authorized, and the Contractor shall do no work other than that described therein or in accordance with appropriately authorized and approved Change Orders.

ARTICLE 3 - RIGHTS AND RESPONSIBILITIES OF CONSULTANT AND DIRECTOR

- A. The University shall give all orders and directions contemplated under the contract relative to the execution of the work. The University shall determine the amount, quality, acceptability and fitness of kind of work and materials which are to be paid for under this contract. In the event any question shall arise between the parties hereto, relative to the contract of specifications, determination or decision of the University shall be a condition precedent to the right of the Contractor to receive any money or payment for work under the contract affected in any manner or to any extent by such question.
- B. The Owner may file a written notice to the Contractor to dismiss forthwith any subcontractors, superintendents, foremen, workmen, watchmen or other employees whom the Owner may deem incompetent, careless or a hindrance to proper or timely execution of the work, and Contractor shall comply with such notice as promptly as practicable without detriment to the work or its progress.
- C. If Contractors refuse to cooperate with the instructions and reasonable requests of other contractors in the overall coordinating of the work, the Owner's Representative may take such appropriate action and issue such instructions as in Owner's judgment may be required to avoid unnecessary and unwarranted delay.
- D. If in the judgment of the Owner's Representative it becomes necessary at any time to accelerate work, the Contractor, when ordered by the Owner's Representative in writing, shall cease work at any point and transfer employees to such point or points and execute such portions of work as may be required to enable others to hasten and properly engage and carry out their work, all as directed by the Owner.

ARTICLE 4 - INSPECTION OF THE WORK

- A. The Owner and any duly appointed representative shall at all times have access to the work whenever it is in preparation or progress, and the Contractors shall provide proper facilities for such access and for inspection and supervision.
- B. During progress of work the Owner will be represented at the project by the University's appointed representative, whose duty it will be to see that the contract is properly fulfilled.
- C. The Owner's inspection is for the purpose of assuring the Owner that the drawings and specifications are being properly executed. Although inspector is instructed to confer with Contractor regarding interpretation of plans and specifications, such assistance shall not relieve Contractor of any responsibility for the work.
- D. The fact that the Owner has failed to observe faulty work, or work done which is not in accordance with the drawings and specifications, shall not relieve the Contractor from responsibility for correcting such work without additional compensation.
- E. If any work is covered up without approval or consent of the Owner, it must, if requested by the Owner, be uncovered by the Contractor. No compensation shall be allowed for this work. If such work is found to be defective in any respect, due to fault of the Contractor, or subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the actual cost of labor and material necessarily involved in the examination and replacement plus 10% shall be allowed the Contractor. If the Contractor fails to proceed at once with the correction of rejected defective materials or workmanship, the Owner may by contract or otherwise have the defects remedied or rejected, materials removed from the site and charge the cost of the same against any monies which may be due the Contractor without prejudice to any other rights or remedies of the Owner on the premises.

ARTICLE 5 - COMPLIANCE WITH LAWS, PERMITS, REGULATIONS AND INSPECTIONS

- A. Although the Owner is Lincoln University, municipal or political subdivision ordinances, zoning ordinances, construction codes and other like ordinances are not applicable to construction on Owner's property, the Contractor will be required to submit plans and specifications to any municipal or political subdivision authority, obtain construction permits or any other licenses or permits from or submit to inspections by any municipality or political subdivision relating to the construction of this project. All permits or licenses required by municipality or political subdivision for operation on property not belonging to Owner shall be obtained by and paid for by Contractor. Each Contractor shall comply with all applicable laws, ordinances, rules and regulations as it is not the intent of the Owner to arbitrarily dismiss the authorities identified above.

ARTICLE 6 - ANTI-KICKBACK

- A. No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project shall become directly or indirectly interested personally in this contract, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

ARTICLE 7 - PATENTS AND ROYALTIES

- A. The Contractor shall hold and save the Owner and its officers, agents, servants and employees harmless from liability of any nature of kind, including cost and expense, for, or on account of, any patented or unpatented invention, process, article or appliance manufactured or used in the performance of the contract, including its use by the Owner, unless otherwise specifically stipulated in the contract documents.
- B. If the Contractor uses any design, device or materials covered by letters, patent or copyright, the Contractor shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood, without exception, that the contract prices shall include all royalties or costs in any way involved in the work. The Contractor and/or the Contractor's sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract and shall indemnify the Owner for any cost, expense or damage it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

ARTICLE 8 - STATUTORY PREFERENCE

- A. By virtue of statutory authority, a preference will be given to Missouri labor and to products of mines, forests and quarries of the State of Missouri when they are found in marketable quantities in the State, and all such materials shall be of the best quality and suitable character that can be obtained at reasonable market prices, all as provided for in Section 8.280, Missouri Revised Statutes 1978 and Cumulative Supplements.

ARTICLE 9 - COMMUNICATIONS

- A. All notices, requests, instructions, approvals and claims must be in writing. All papers required to be delivered to the Owner shall, unless otherwise specified by the Owner in writing to the contrary, be delivered to the Director of Facilities and Planning, Lincoln University, Room 309

Young Hall, 820 Chestnut Street, Jefferson City, Missouri 65101. Any such notice shall be deemed to have been given as of the time of actual receipt.

ARTICLE 10 - DUTIES OF CONTRACTOR

- A. The Contractor shall supply sufficient labor, material, plant and equipment and pay when due any laborer, subcontractor or supplier for supplies furnished and otherwise prosecute the work with diligence to prevent work stoppage and insure completion thereof within the time specified. The Contractor shall pay not less than the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed, as determined by the Department of Labor and Industrial Relations of the State of Missouri and as set out in the contract specifications.
- B. The Contractor and each subcontractor shall submit to the Owner, such schedules of quantities and costs, progress schedules, payrolls, reports, estimated records and other data as the Owner may request concerning work performed or to be performed under the contract.
- C. The Contractor shall give access to, upon written request from the Owner, all time cards, material invoices, payrolls, profit and loss statements, and all other direct or indirect costs related to this work.
- D. Each Contractor shall be responsible for laying out own work and for any damage which may occur to work of any other contractor because of errors or inaccuracies, as well as be responsible for unloading, uncrating and handling of all materials and equipment to be erected or placed by Contractor, whether furnished by Contractor or others. Layout of mechanical and electrical work shall be coordinated with layouts of Contractor for general construction work. Unless otherwise directed by Owner, salvage materials, waste and scrap resulting from such work shall be promptly removed from the site by the responsible Contractor.
- E. Contractors shall limit operations and storage of materials to the area within the project, except as necessary to connect to existing utilities, and shall not encroach on neighboring property.
- F. Contractors shall prearrange time with the University Representative in case it becomes necessary for the interruption of any service to make connections, alterations or relocations and shall fully cooperate with Owner in doing work so as to cause the least annoyance and interference with the continuous operation of the institution. Unless otherwise specified in these documents, all connections, alterations or relocations will be performed during normal working hours.
- G. Each Contractor shall coordinate all work so there shall be no prolonged interruption of existing equipment. All parking lot improvements must be scheduled with the University Representative to avoid any disruption of operation within the campus activities. In no case, unless previously approved in writing by the University Representative, shall parking lot areas be left unprotected at the end of a workday or over a weekend. Any interruption of construction activities whether intentionally or accidentally, shall not relieve the Contractor responsible for the interruption from repairing and restoring the property to normal service. Repairs and

restoration shall be made before the workers responsible for the repair and restoration leave the job.

- H. Each Contractor shall be responsible for repair of damage to property on or off the project occurring during construction of project, and all such repairs shall be made to the satisfaction of the Owner.
- I. Contractors shall not overload, or permit others to overload, any part of any structure during building operations.
- J. Each Contractor shall be responsible for shoring required to protect work or adjacent property and improvements of Owner and shall be responsible for shoring or for giving any required notice to adjacent property owners and shall pay for any damage caused by failure to shore or by improper shoring or by failure to give proper notice. Shoring shall be removed only after completion of permanent supports.
- K. During the performance of work the Contractor shall be responsible for providing and maintaining warning signs, lights, signal devices, barricades, guard rails, fences and other devices appropriately located on site which will give proper and understandable warning to all persons of danger of entry onto land, structure or equipment. Such warning and protective devices shall be removed only when approved by the Owner.
- L. The Contractor shall be responsible for protection, including weather protection, and proper maintenance of all equipment and materials installed or to be installed by Contractor.
- M. The Contractor shall be responsible for care of finished work and must protect same from damage or defacement until final acceptance by the Owner. All damaged and defaced work shall be repaired or replaced to Owner's satisfaction at the expense of Contractor.
- N. The Contractor shall designate a responsible member of the organization available at the job site whose duty shall be the prevention of accidents.
- O. The Contractor may always employ a person or persons for watch duty service outside of regular working hours, and at such times during working hours when work is not in progress at the building, from the time the excavation work is started until the entire work is complete. This watch duty service will in no way relieve the Contractor of responsibility for replacing or making good any theft or damage.
- P. Before commencing work, Contractors shall confer with the Owner's Representative to ascertain full knowledge of all rules and regulations affecting working conditions. Rules and regulations in force at the institution shall take precedence over rules and regulations that exist outside the institution's jurisdiction. If the Contractor observes that the drawings and specifications are at variance therewith, the Contractor shall promptly notify the Owner in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations and without such notice, the Contractor shall bear all costs arising therefrom and saving the Owner "harmless".

- Q. No project signs shall be erected without the written approval of the Owner, unless said sign complies with a specific requirement of these specifications, in which case approval of the University Representative must be obtained prior to erection.
- R. Contractor shall verify all measurements. No extra charges or compensation will be allowed as a result of failure to verify dimensions before ordering materials or fabricating items.
- S. The Contractor shall provide at the proper time such material as is required for support of work. If supplemental work required, whether shown on drawings or not, the Contractor shall see that they are properly constructed by the Contractor or subcontractor whose duty it is to construct the same.
- T. All rubbish, debris, and dirt resulting from the Contractor's work shall be cleaned up as required, and removed from the property. The premises shall at all times be kept in a clean, safe and professional manner.
- U. The Contractor shall, prior to requesting final inspection, remove equipment and shall leave work "broom-clean" or its equivalent, unless more exactly specified in the contract documents. Prior to receiving final payment, the Contractor shall remove all rubbish, tools, equipment etc., from the site.
- V. If any work is required to be specially tested or approved, Contractor shall give the Consultant timely notice of date for such inspection.

ARTICLE 11 – BOND

- A. Contractor shall furnish a performance/payment bond in an amount at least equal to 100% of the contract price as security for the faithful performance of the contract and for the payment of all persons performing labor on the project and furnishing materials in connection therewith under this contract as set forth in the standard form of performance/payment bond included in the contract documents. The Surety on such bond shall be a duly authorized Surety Company satisfactory to the Owner.

ARTICLE 12 - COMMENCEMENT AND COMPLETION OF WORK

- A. Before a "Notice to Proceed" with the work will be issued the Contractor must submit the following properly executed instruments to the Owner:
 - (a) Contract;
 - (b) Performance/payment bond as described in Article 12;
 - (c) Certificates of Insurance, or the actual policies themselves, showing that the Contractor has obtained the insurance coverage required by Article 21. If provided, the certificates of insurance shall comply with the requirements of Article 21 (D) and;

These items must be received by the Owner within fourteen (14) consecutive calendar days after the Contractor receives the letter directing him to submit them. If not, the Owner may treat the failure to timely submit them as a refusal by the Contractor to accept a contract for this work and may retain as liquidated damages the Contractor's bid bond, cashier's check or certified check as provided in the Instructions to Bidders.

- B. Within ten (10) days following receipt of the "Notice to Proceed", the Contractor shall submit to the Consultant for approval the following:
 - (a) A progress and payment schedule as described in Article 15; and
 - (b) A complete breakdown of the Contractor's proposal as described in Article 27

No payments to the Contractor will be made until the Contractor has submitted these items and they have been approved by the Owner; provided, however, that should the Contractor not receive written notification from the Owner of the disapproval of any of these items within twenty-one (21) calendar days of their receipt by the Owner, the Contractor may consider them approved and may proceed accordingly.

- C. Contractor shall commence work upon a date to be specified by the Owner in the "Notice to Proceed". Contractor shall prosecute the work with faithfulness and energy, and shall complete the entire work on or before the completion time stated in the contract documents, or pay to the Owner the damages resulting from the failure to timely complete the work as set out in Article 14.
- D. Extension of time stipulated in the Contract for completion of the work will be made when changes in the work occur, as provided in Article 26, when the work is suspended as provided in Article 13 (F); or when the work of the Contractor is delayed on account of conditions which could not have been foreseen, or which were beyond the control of the Contractor, subcontractors or suppliers, and which were not the result of their fault or negligence. Extension of time for completion shall also be allowed for any delays in the progress of the work caused by any act (except as provided elsewhere in these General Conditions) or neglect of the Owner or the Owner's employees or by other Contractors employed by the Owner, or for any delay in the furnishing of drawings and necessary information by the Consultant, or delay in return of shop drawings, or for any other cause which in the opinion of the Owner entitles the Contractor to an extension of time, including but not restricted to fires, floods, unusually severe weather or labor strike.
- E. The Contractor shall notify the Consultant and University Representative promptly of any occurrence or conditions which in the Contractor's opinion entitle him/her to an extension of time. Such notice shall be in writing and shall include all necessary supporting materials and be submitted in ample time to permit full investigation and evaluation of the

Contractor's claim. The Consultant shall promptly acknowledge the Contractor's notice, and with the University Representative, shall provide information and recommendation to the

Owner for decision. Failure on the part of the Contractor to provide such notice shall constitute a waiver by the Contractor of any claim.

- F. When conditions at the site of the proposed work are considered by the Owner to be unsatisfactory for prosecution of the work, Contractor may be ordered in writing to suspend the work or any part thereof until reasonable conditions exist. When such suspension is not due to fault or negligence of the Contractor, time allowed for completion of such suspended work will be extended by a period of time equal to that lost due to delay occasioned by ordered suspension.

ARTICLE 13 - LIQUIDATED DAMAGES/SUBSTANTIAL COMPLETION

- A. It is agreed that the Owner may deduct from the contract price and retain as liquidated damages, and not as penalty or forfeiture, the sum stipulated in the contract for each calendar day, Sunday and holidays excepted, after date specified for completion of the project that the entire work is not substantially complete.
- B. The term "substantially complete" as used herein shall be construed to mean the completion of the entire work in strict accord with all requirements of the drawings and specifications except minor items which in the opinion of the Owner will not interfere with complete and satisfactory use of the facilities. However, this does not relieve the Contractor of the requirements concerning final completion and of Article 33 - General Guarantee.
- C. Only certification by the Owner as to substantial completion of the work within the time specified shall be conclusive and binding on the Owner and Contractor for the purpose of determining whether or not liquidated damages shall be assessed under the terms hereof and the sum total amount due.
- D. Liquidated damages or any matter related thereto shall not relieve the Contractor or the Contractor's surety of any responsibility or obligation under this contract.
- E. If the work embraced by the terms of this contract is not substantially completed on or before the time specified in this contract because of any act or omission of the Contractor, then, without prejudice to any other rights, claims or remedies the Owner may have the architectural, engineering and inspection costs and expenses incurred by the Consultant upon the work, from the originally agreed upon completion date to the substantial completion date of all work, shall be borne by the Contractor and may be deducted by the Owner from any amount owing and due the Contractor.

ARTICLE 14 - PROGRESS AND SCHEDULING

- A. Each Contractor shall submit for the Consultant's approval, in reproducible form, a progress schedule showing rate of progress the Contractor agrees to maintain and order in which the Contractor proposes to carry on various phases of work. Schedule shall show percentage of work completed at any time, anticipated monthly payments by Owner, as well as significant dates (such as completion of excavation, concrete work, asphalt work, paint striping, etc.) which shall serve as check points to determine compliance with approved schedule. Progress

schedule of the Contractor shall be submitted to subcontractors to permit coordinating their progress schedules to the general construction work.

- B. Values employed in preparation of any schedules will be used only for determining the basis for partial payments and will not be considered as a basis for additions to or deductions from the contract price.
- C. There will be no payments of any periodic estimates until the progress schedule has been approved by the Consultant, and subsequent payments of periodic estimates will be suspended if the project schedule has not been adequately updated to reflect actual conditions.
- D. Contractor shall employ and supply a sufficient force of workers, material, and equipment and shall pay when due, any workers, subcontractor or supplier and otherwise prosecute the work with such diligence so as to maintain the rate of progress indicated on the progress schedule, prevent work stoppage, and insure completion of the project within the time specified.

ARTICLE 15 - SUBSTITUTIONS AND/"OR APPROVED EQUAL"

- A. Whenever in any of the contract documents any article, appliance, device or material is designated by the name of the manufacturer or vendor or by any proprietary or trade name and such name is followed by the words "or approved equal", "or as approved" or preceded by the words "similar and equal to", the standard products of manufacturers other than those specified will be accepted when, prior to the order or use thereof, it is proven to the satisfaction of the Owner that they are equal in design, strength, durability, usefulness and convenience for the purpose intended.
- B. The Contractor may request use of any article, device, product, material, fixture, form or type of construction which in the judgment of the Owner is equal in all respects to that named. Any changes required in the details and dimensions indicated on the drawings for the substitution of products other than those called for shall be properly made as approved by the Owner at the expense of the Contractor requesting the substitution or change.
- C. In the event the Contractor desires to substitute any article, device, product, material, fixture, form or type of construction for that specified, the Contractor shall submit a request for such substitution in writing to the Owner within thirty (30) days after the date of the "Notice to Proceed". A copy of said request shall be sent concurrently to the Owner, Lincoln University, Jefferson City, Missouri. Thereafter no consideration will be given to alternate forms of accomplishing the work. This article does not preclude the Owner exercising the provisions of Article 26 hereof.

ARTICLE 16 - SUPERINTENDENCE

- A. The Contractor shall keep at the work site during its progress, a competent superintendent satisfactory to the Owner. The Superintendent shall represent the Contractor in the Contractor's absence and all directions given to the Superintendent shall be as binding as if

given to the Contractor. The Superintendent shall carefully study and compare all drawings, specifications and other instructions and shall, at once, report to the University's Representative any error, inconsistency or omission which may be discovered. The Superintendent shall not be changed except with the consent of the Owner.

ARTICLE 17 - SHOP DRAWINGS

- A. The Contractor shall submit, with such promptness as to cause no delay in work or in that of any other contractors, all shop and setting drawings. Such drawings shall be submitted to the Owner in four (4) copies for the Owner's use and additional copies as required for the Contractors, subcontractors, material suppliers, and to meet the requirements for maintenance manuals, etc., as described in Article 32.
- B. Each drawing and/or series of drawings submitted must be accompanied by a letter of transmittal giving a list of the titles and numbers of the drawings. Each series shall be numbered consecutively for ready reference and each drawing shall be marked with the following information:
 - (a) Date of Submission
 - (b) Name of Project
 - (c) Location
 - (d) Branch of Work
 - (e) Project Number
 - (f) Name of Submitting Contractor
 - (g) Name of Subcontractor
- C. All subcontractor's shop drawings and schedules shall be submitted by the Contractor and shall bear the stamp of approval by the Contractor as evidence that the Contractor has checked them. Any shop drawings and schedules submitted without this stamp, or without having been checked, will be returned to the Contractor for resubmission and the drawings and schedules will be considered as never having been submitted.
- D. The Contractor shall include with the shop drawings, a letter indicating all deviations from the drawings and/or specifications. Failure to so notify of such deviations will be grounds for subsequent rejection of the related work or materials. If, in the opinion of the Owner, the deviations are not acceptable, the Contractor will be required to furnish the item as specified and indicated on the drawings.
- E. It is the Contractor's obligation and responsibility to check all shop drawings and schedules and to be fully responsible for them and for their coordination with connecting work. Shop

drawings and schedules shall indicate in detail all parts of an item of work, including erection and setting instructions and engagements with the work of other trades.

- F. The Owner shall check shop drawings and schedules with reasonable promptness and approve them only in conformance with the design concept of the project and compliance with the information given in the contract documents. The approval shall not relieve the Contractor from the responsibility for deviations from the drawings and specifications, unless the Contractor has called the Consultant's attention to same, in writing, at the time of submission. An approval of any such modification will be given only if it is in the interest of the Owner, to affect an improvement in the work, does not increase the contract sum and/or completion time, is subject generally to all contract stipulations and covenants, and is without prejudice to any and all rights under the surety bond.
- G. No extension of time will be granted the Contractor because of failure to submit shop drawings and schedules in ample time to allow for review, possible resubmittals and approval. Fabrication of work shall not commence until the Contractor has received approval. The Contractor shall furnish prints of approved shop drawings and schedules to all contractors whose work is in any way related to the work under the contract. Only prints bearing this approval will be allowed on the site of construction.
- H. All shop drawings must be submitted prior to the receipt of the third partial payment request. After the second payment has been made, no further payments will be made without the written consent of the Owner until all shop drawings have been submitted.
- I. On completion of the work, and as a condition precedent to receiving final payment, all shop drawings and schedules of all work for all trades shall be corrected to a true and actual representation of the work actually performed, erected and installed. Drawings showing the actual work completed (See Article 31.)

ARTICLE 18 - SAMPLES, TESTS AND CERTIFICATES

- A. The Contractor shall prepare samples of all items requested or required by the specification. Samples shall be properly identified and submitted with such promptness as to cause no delay in work or in that of any other contractor and to allow for consideration by the Consultant and Owner.
- B. Each set of samples submitted must be accompanied by a letter of transmittal containing the following information:
 - (a) Date of Submission
 - (b) Name of Project
 - (c) Location
 - (d) Branch of Work

(e) Project Number

(f) Name of Submitting Contractor

(g) Name of Subcontractor

- C. No materials shall be delivered to the site of construction or incorporated into the work until the Contractor has received approval. Any materials installed prior to receipt of such approval shall be subject to rejection by the Consultant.
- D. Samples shall be labeled to designate material or product represented, grade, place of origin, name of producer and name of Contractor.
- E. Approval of material is general and shall not constitute waiver of Owner's right to demand full compliance with contract requirements.
- F. Unless Owner is authorized at the time of submittal to return samples at Contractor's expense, rejected samples will be destroyed.
- G. After delivery of materials Owner may make such tests as deemed necessary with samples required for such tests being furnished and at the cost of the appropriate Contractor. If the material, equipment or accessory fails to meet the contract requirements, all costs of testing shall be paid by the Contractor. If the item meets the contract requirements, costs of testing will be paid by Owner.
- H. On the basis of the test results, materials, workmanship, equipment or accessories may be rejected even though general approval has been given. If items have been incorporated in work, Owner shall have the right to cause their removal and replacement by items meeting contract requirements or to demand and secure such reparation to the Owner from the Contractor as is equitable.
- I. The Owner reserves the right to require Contractor to furnish a certificate guaranteeing that material or equipment as submitted complies with contract requirements. Certificates shall be in notarized affidavit form. If statement originates with manufacturer, Contractor shall endorse all claims and submit statement in the Contractor's name.
- J. When directed by the Owner, and unless otherwise specified with the technical design section, samples of finished work and field applied paints and finishes shall be located as directed and shall include sample panels constructed at site of approximately 20 square feet each.
- K. All tests required by the specifications shall be paid for by the Contractor to testing laboratories approved by the Owner.

ARTICLE 19 - MATERIALS AND WORKMANSHIP

- A. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of the best quality. If required by the Owner, satisfactory evidence shall be furnished as to the kind and quality of the materials and workmanship.
- B. All materials and workmanship used in the work shall be subject to the inspection of the Owner, and any work which is deemed defective shall be removed, rebuilt or made good. The cost of such correction shall be borne by the Contractor. All condemned materials shall be immediately removed from the site of the work.
- C. Failure or neglect on the part of the Owner to condemn or reject bad or inferior materials or workmanship shall not be construed to imply an acceptance of any work. The work herein specified to be done is not to be considered as finally accepted until it is so stated in writing by the Owner.
- D. Unless otherwise provided and stipulated within these specifications, the Contractor shall furnish, construct, and/or install and pay for materials, devices, mechanisms, equipment, all necessary personnel, utilities including, but not limited to water, heat, light and electric power, transportation services, applicable taxes of every nature, and all other facilities necessary for the proper execution and completion of the work,
- E. All temporary shoring, bracing, etc., required for the removal of existing work and/or for the installation of new work shall be included in this contract. This must be done to the entire satisfaction of the Owner but the Contractor must assume full responsibility for the work. The Contractor shall make good, at no cost to the Owner, any damage caused by improper support or failure of shoring in any respect.
- F. Contractor shall, at all times, enforce strict discipline and good order among employees, and shall not employ on the work any unfit person or anyone not skilled in the work assigned.
- G. Contractor shall carefully examine the plans and drawings and shall be responsible for the proper fitting of material, equipment and apparatus into the parking lots and roadways.
- H. Contractor shall base proposal only on materials, method of construction and equipment indicated. Contractor may make a written proposal to Owner to use alternate materials, methods or fixtures, in accordance with Article 16, Substitutions.
- I. Contractor shall promptly remove at own expense all rejected materials from the site of work.
- J. When a material has been approved no change in brand or make will be permitted unless:
 - (a) Written verification is received from the manufacturer stating they cannot make delivery on the date previously agreed, or
 - (b) Materials delivered fails to comply with contract requirements.

ARTICLE 20 - INSURANCE

- A. The Contractor shall not commence work under this contract until the Contractor has obtained and submitted to the Owner "Certificate of Insurance" for all insurance required under this Article and such insurance has been approved by the Owner; nor shall the Contractor allow any subcontractor to commence on subcontract until all similar insurance required of the subcontractor has been obtained and approved.
- B. Contractor shall provide and maintain during the life of the contract and until final acceptance of the work, insurance acceptable to the Owner which will afford protection and coverage in accordance with the requirements set forth below.
- (a) Worker's Compensation Insurance: Worker's Compensation Insurance for all employees at the site of the project, and, in case any work is sublet, Contractor shall require any and/or all subcontractor(s) similarly to provide Worker's Compensation Insurance for all their employees unless such employees are covered by the protection afforded by Contractor. In case any class of employees engaged in hazardous work under this contract at the site of the project is not covered under the Worker's Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide Employer's Liability Insurance. Contractors shall provide coverage under the "Occupational Disease Act" of the State of Missouri, in addition to the above requirements, if the operations of the Contractor or any subcontractor are applicable thereunder. Worker's Compensation Insurance shall comply in all respects with the requirements of the Statutes of the State of Missouri.
- (b) Public Liability and Property Damage Insurance: Public Liability and Property Damage Insurance in comprehensive general liability form as shall protect

Contractor and any subcontractor performing work covered by this contract from claims for damages for personal injury, including wrongful death; and from claims for property damage which may arise from the operations under the contract, including all trucks and automobiles used, whether owned or not, and whether such operations be by the Contractor or any subcontractor or by anyone directly employed by either of them. The amount of insurance shall not be less than the following:

1. Public Liability and Property Damage -

Bodily Injury:

each person	\$ 100,000.00
each accident	\$ 800,000.00

Property Damage:

each accident	\$ 500,000.00
aggregate	\$ 500,000.00

2. Automobile Public Liability & Property Damage -

Bodily Injury:

each person	\$ 100,000.00
each accident	\$ 800,000.00

General Conditions

Property Damage:
each accident \$ 100,000.00

Such policy or policies shall by proper endorsement cover any liability of Contractor under the indemnification provision, Article 25 of the General Conditions.

- (c) Insurance Covering Special Hazards: The Public Liability and Property Damage Insurance policy or policies of the Contractor shall provide coverage for special hazards such as operation of material hoists, blasting or other use of explosives, and damage to underground property.
 - (d) Owner's Protective Liability Insurance: Owner's Protective Liability Insurance for protection of the Owner and the Consultant protecting them against the standard hazards, except liability from operation of trucks and automobiles, and with the amount of coverage provided in the Public Liability and Property Damage Insurance of Contractor.
 - (e) Builder's Risk and Installation Floater Insurance: Insurance upon the work and all materials, equipment, supplies, temporary structures and similar items which may be incident to the site, against loss or damage from fire and such other casualties as are included in extended coverage in broad comprehensive form, vandalism and malicious mischief, in an amount not less than the replacement cost of the work or the contract price, whichever is greater, with loss payable to Contractor and Owner as their respective interest may appear. Such insurance may be written with Building and Contents Form of Endorsement. In the event Building and Contents Form Endorsement contains an alterations and repair permit, Contractor shall maintain sufficient insurance to cover the full value of the work and materials as the work progresses, and shall furnish Owner copies of all endorsements. If Builder's Risk Reporting Form of Endorsement is used, Contractor shall make all reports as required therein so as to keep in force an amount of insurance which will equal to the replacement cost of the work, materials, equipment, supplies, temporary structures, and other property covered thereby; and if, as a result of Contractor's
 - (f) failure to make any such report, the amount of insurance so recoverable shall be less than such replacement cost, Contractor's interest in the proceeds of such insurance, if any, shall be subordinated to Owner's interest to the end that Owner may receive full reimbursement for its loss.
- C. All insurance shall be procured through and be written by insurance companies which are acceptable to and approved by the Owner and shall be obtained and paid for by Contractor.
- D. Within fourteen (14) consecutive calendar days after receipt of the letter directing the Contractor to do so, the Contractor shall furnish the Owner with certificates showing that the Owner is covered by the required insurance and showing the type, amount, class of operations covered, effective dates and dates of expiration of the policies. All certificates shall contain substantially the statement: "The insurance covered by this certificate will not be canceled or

altered except after ten days' written notice has been received by the Owner." In addition, the original Owner's protective policy shall be forwarded to the Owner.

- E. Upon receipt of any notice of cancellation of alteration, Contractor shall within five (5) days procure other policies of insurance similar in all respects to the policy or policies about to be canceled or altered; and if Contractor fails to provide, procure and deliver acceptable evidence thereof, Owner may obtain such insurance at the cost and expense of Contractor without notice to Contractor.
- F. It is understood and agreed that the insurance required by the provisions of this Article is required in the public interest and that Owner does not assume any liability for acts of the Contractor, any subcontractor or their employees in the performance of the contract.

ARTICLE 21 - SEPARATE CONTRACTS AND COOPERATION

- A. The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate work with theirs.
- B. The Contractor shall consult the drawings for all other contractors in connection with this work. Any work conflicting with the above shall be brought to the attention of the Consultant before the work is performed. If the Contractor fails to do this, the Contractor shall remove any part so conflicting and rebuild same, as directed by the Consultant, at no additional cost to the Owner.
- C. No Contractor shall delay any other Contractor by neglecting to perform their work at the proper time. Each Contractor shall be required to coordinate own work with other Contractors so as to afford others reasonable opportunity for execution of their work.
- D. Each Contractor shall be responsible for damage to Owner's or other Contractor's property done by the Contractor or persons in their employ through the Contractor's or their fault or negligence.
- E. Should a Contractor sustain any damage through any act of omission of any other contractor having a contract with the Owner, the Contractor so damaged shall have no claim or cause of action against the Owner for such damage, but shall have a claim or cause of action against the other Contractor to recover any and all damages sustained by reason of the acts of omissions of such contractor. The phrase "act of omission" as used in this section shall be defined to include, but not be limited to, any unreasonable delay on the part of any such contractors.

ARTICLE 22 - SUBCONTRACTS

- A. Subcontractor assignments as identified in the bid proposal shall not be changed without written approval of the Owner.

- B. Contractor is as fully responsible to the Owner for the acts and omissions of subcontractors and of persons either directly or indirectly employed by them as the Contractor is for the acts and omissions of persons directly employed by the Contractor.
- C. Every subcontractor shall be bound by the applicable terms and provisions of the contract documents, by no contractual relationship shall exist between any subcontractor and the Owner unless the right of the Contractor to proceed with the work is suspended or the contract is terminated as herein provided, and the Owner in writing elects to assume the subcontract.
- D. The Contractor shall upon receipt of "Notice to Proceed" and prior to submission of the first payment request, notify the Consultant and University Representative in writing of the names of any subcontractors to be used in addition to those identified in the bid proposal and all major materials suppliers proposed for all parts of the work.

ARTICLE 23 - ASSIGNMENT OF CONTRACT

- A. No assignment by Contractor of any amount or any part of the Contract or of funds to be received thereunder will be recognized unless such assignment has had the written approval of the Owner and the surety has been given due notice of such assignment and has furnished written consent thereto. In addition to the usual recitals in assignment contracts, the following language must be set forth: "It is agreed that the funds to be paid to the assignee under this assignment are subject to performance by the Contractor of the contract and to claims or liens for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms or corporations rendering such services or supplying such materials."

ARTICLE 24 - INDEMNIFICATION

- A. Contractor agrees to indemnify and save harmless Owner and Consultant, their agents, servants and employees, from and against any and all liability for damage arising from injuries to persons or damage to property occasioned by any acts or omissions of Contractor, any subcontractors, agents, servants or employees, including any and all expense, legal or otherwise, which may be incurred by Owner or Consultant, its agents, servants or employees, in defense of any claim, action or suit, irrespective of any claims that an act, omission or negligence of Owner or Consultant, its agents, servants or employees contributed to such injury or damage.
- B. The obligations of the Contractor under this paragraph shall not extend to the liability of the Consultant, the Consultant's agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, design or specifications, or (2) giving of or the failure to give directions or instructions by the Consultant, the Consultant's agents or employees as required by the contract documents provided such giving or failure to give is the primary cause of the injury or damage.

ARTICLE 25 - CHANGES IN THE WORK

- A. The Owner, without giving notice to the surety and without invalidating this contract, may order extra work or make changes by altering, adding to or deducting from the work, this contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract. A claim for extension of time caused by any change must be adjusted at the time of ordering such change. No future request for time will be considered.
- B. Each Contract Change shall include all costs required to perform the work including all labor, material, equipment, overheads and profit, delay, disruptions, or other miscellaneous expenses. No requests for additional compensation including claims for delay, disruption, or reduced efficiency as a result of this change will be considered.
- C. The amount of any adjustment in this contract price for authorized changes shall be agreed upon before such changes become effective and shall be determined, through submission of a request for proposal, as follows:
 - 1. By an acceptable unit price or fixed price proposal from Contractor and subcontractor. Breakdown shall include all takeoff sheets of each Contractor and subcontractor. Breakdown shall include a listing of each item of material with unit prices and number of hours of labor for each task. Labor costs per hour shall be included with labor burden identified, which shall be not less than the prevailing wage rate, etc. Overhead and profit shall be shown separately for each subcontractor and the Contractor.
 - 2. By a cost-plus-fixed-fee (time and material) basis with maximum price, total cost not to exceed said maximum. Breakdown shall include a listing of each item of material with unit prices and number of hours of labor for each task. Labor costs per hour shall be included with labor burden identified, which shall be not less than the prevailing wage rate, etc. Overhead and profit shall be shown separately for each subcontractor and the Contractor.
 - 3. By unit prices contained in Contractor's original bid form and incorporated in the construction contract.
- D. Overhead and Profit on Contract Changes shall be applied as follows:
 - 1. The overhead and profit charge by the Contractor and all subcontractors shall be considered to include, but is not limited to: incidental job burdens, small truck (under 1 ton) expense, mileage, small hand tools, company benefits and general office overhead. Project supervision including field supervision and job site office expense shall be considered a part of overhead and profit unless a compensable time extension is granted.

The percentages for overhead and profit charged on Contract Changes shall be negotiated, and may vary according to the nature, extent, and complexity of the work involved. However, the overhead and profit for the Contractor or subcontractor actually performing the work shall not exceed 15%. When one or more tiers of subcontractors are used, in no event shall any Contractor or subcontractor receive as overhead and profit more than 7% of the cost of the work performed by any of his/her subcontractors. In no case shall the total overhead and profit paid by the Owner on any Contract Changes exceed twenty five percent (25%) of the cost of materials, labor and equipment necessary to put the contract change work in place.

2. The Contractor will be allowed to add the cost of bonding and insurance to their cost of work. This bonding and insurance cost shall not exceed 2% and shall be allowed on the total cost of the added work including overhead and profit.
 3. On proposals covering both increases and decreases in the amount of this contract, the application of overhead and profit shall be on the net change in the cost of the work.
 4. The percentage for overhead and profit to be credited to the Owner on Contract Changes that are solely decreases in the quantity of work or materials shall be negotiated, and may vary according to the nature, extent and complexity of the work involved, but in no case shall be less than ten percent (10%), unless the percentage for overhead and profit charged for Contract Changes for this contract, has been negotiated to less than 10%. The negotiated rate shall then apply to credits as well.
- E. No claim for an addition to this contract sum shall be valid unless authorized as aforesaid in writing by the Owner. In the event that none of the foregoing methods are agreed upon, the Owner may order work performed by force account or accounts. The cost of such work shall be determined by the Contractor's actual labor and material cost to perform the work plus overhead and profit as outlined in paragraph C above. The Owner's representative Administrator shall approve the Contractor's daily time and material invoices for the work involved.
- F. If the Contractor claims that any instructions involve extra cost under this contract, he/she shall give the Owner written notice thereof within a reasonable time after the receipt of such instructions, and in any event before proceeding to execute the work. No such claim shall be valid unless so made and authorized by the Owner, in writing.
- G. In an emergency affecting the safety of life or of the structure or of adjoining property, the Contractor, without special instruction or authorization from the Owner, is hereby permitted to act at his/her discretion to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work shall be submitted in writing and determined by agreement with the Owner.

ARTICLE 26 - PAYMENT TO CONTRACTORS

A. PAYMENTS:

- (a) Payments on account of this contract will be made monthly as the work progresses. The Contractor shall submit to the Owner, in the manner and form prescribed, an application for each payment, and, if requested, receipts or other vouchers showing payments for materials and labor, including payments to subcontractors. The Owner will make partial payments as soon thereafter as possible, for work done during the preceding calendar month on estimates certified to the Owner subject to the approval of the Owner. The Owner shall retain ten percent (10%) of the amount of each such estimate until final completion and acceptance of all work covered by the contract, except that on completion of fifty percent (50%) of the work the retainage may be reduced to five percent (5%) of the value of the work in place and materials properly stored on the site if in the opinion of the Owner the work has progressed satisfactorily and there is no reason to believe the Contractor may default in the execution of the balance of the work. All bills, claims and demands for labor performed, work done or materials furnished, shall be submitted in six (6)

- (b) copies by the Contractor. The terms and conditions of this paragraph shall be executed in strict accord with Section 8.260 RSMo 1978 and Cumulative Supplements.
 - (c) For contracts, the cost of which is \$5,000.00 or less, paragraph (a) of this article shall not apply. Contracts falling within this category shall merit but a single payment which shall become due and payable on completion and acceptance of all work specified thereunder. The terms and provisions of this paragraph shall be executed in strict accord with Section 8.270 RSMo 1978 and Cumulative Supplements.
 - (d) Each payment made to Contractor shall be on account of the total amount payable to Contractor and all material and work covered by paid partial payment shall thereupon become the sole property of Owner. No such payment shall be deemed to be approval for any item or items for which such payment is made, and this provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work or as a waiver of the right of Owner to require fulfillment of all terms of the contract.
 - (e) Ordinarily no allowance will be made in estimates for materials delivered on site of work and not incorporated in work; however, items considered by Consultant to be major items of considerable magnitude, if suitably stored on the site, will be allowed in estimates on the basis of ninety percent (90%) of value, the value calculated in proportion to contract price.
- B. PAYMENTS WITHHELD: The Owner may withhold or nullify in whole or part any certificate to such extent as may be necessary to protect the Owner from loss on account of:
- (a) Defective work not remedied.
 - (b) Failure of the Contractor to make payment properly to subcontractors for material or labor.
 - (c) Claims files or reasonable evidence indicating probable filing of claims.
 - (d) A reasonable doubt that the contract can be completed for the balance then unpaid.
 - (e) Damage to another Contractor.

When the Owner is satisfied the Contractor has remedied above grounds, payments shall be made for amounts withheld.

C. FINAL PAYMENT:

- (a) Final payment shall be due at such time as the work is fully completed and all provisions of the contract have been satisfactorily fulfilled.
- (b) Upon receipt of written notice from the Contractor to the Consultant that the work is ready for final inspection and acceptance, the Consultant and University Representative shall promptly make such inspection. If the work is acceptable and the contract fully performed,

the Contractor will be directed to submit a final estimate for certifications. If the Owner approves the same, the entire balance shall be due and payable.

(c) Where the specifications provide for the performance by the Contractor of certain tests for the purpose of balancing and checking the air conditioning and heating equipment and the Contractor shall have furnished and installed all such equipment in accordance with the specifications, but said test cannot then be made because of weather conditions, such test shall be considered as required under the provisions of the specifications, Article 19 of General Conditions, and the contract may be certified as satisfactorily completed and the work accepted and full payment made, even though the tests have not been made.

- D. RELEASES: Neither the final payment nor any part of the retained percentage shall become due until the Contractor delivers to the University Representative a complete file of releases, on a standard form prescribed by the Owner and included in the contract documents, from subcontractors and material persons evidencing payment in full for services, equipment and materials, as the case may require, and a properly executed Affidavit of Compliance with Prevailing Wage Law in the form as included in the contract specifications.
- E. If any lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien or claim including all costs and a reasonable attorney's fee.

ARTICLE 27 - PARTIAL OCCUPANCY/SUBSTANTIAL COMPLETION

- A. The Owner may fully occupy the facility as soon as it is substantially completed. No provisions in this document shall be construed to prevent partial occupancy by the Owner so long as the partial occupancy does not materially affect the construction process.
- B. Contractor agrees that Owner upon advance notification to Contractor in writing will be permitted to occupy and use any completed or partially completed portions of the project when such occupancy and use is to the Owner's best interest.
- C. If such prior occupancy increases the cost of the work or delays its completion, provided that the same occur prior to the completion date fixed by the "Notice to Proceed", and as amended by contract Change Orders, and provided the Contractor submits written notification of such cost increase or time delay, the Contractor shall be entitled to extra compensation or extension of time, or both.

ARTICLE 28 - ARBITRATION, DISPUTES AND DISAGREEMENTS

- A. In order to prevent all disputes or disagreements between the parties in this contract in relation to their performance hereof on the part of this Contractor, it is hereby expressly agreed and understood that in case any controversy or difference of opinion shall arise between the parties aforesaid as to quality, quantity or value of the work, or material, the interpretation of the provisions of this Contract or any other matter connected with this work, the decision of the Attorney General of the State of Missouri, shall be final and binding on all parties.

ARTICLE 29 - RIGHTS OF OWNER ON BREACH OF CONTRACT

- A. If the Contractor shall be judged bankrupt, or if the Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of its insolvency, or if the Contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workers or proper materials or if the Contractor should fail to make prompt payments to subcontractor or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner, or otherwise be guilty of a substantial violation of any provision of the contract, then the Owner may serve notice on the Contractor and the Contractor's surety setting forth the violations and demanding compliance with the contract. Unless within ten (10) consecutive calendar days after serving such notice, such violations shall cease and satisfactory arrangements for corrections be made, the Owner may suspend the Contractor's right to proceed with the work or terminate the contract.
- B. In the event the Owner suspends Contractor's right to proceed with the work or terminates the contract, the Owner may demand that the Contractor's surety take over and complete the work on the contract, after the surety submits a written proposal to the Owner and receives written approval and upon the surety's failure or refusal to do so within ten (10) consecutive calendar days after demand therefor, the Owner may take over the work and prosecute the same to completion by bid or negotiated contract, or the Owner may elect to take possession of and utilize in completing the work such materials, supplies, appliances and plant as may be on the site of the work, and all subcontractors, if the Owner elects, shall be bound to perform their contracts.
- C. The Contractor and the Contractor's surety shall be and remain liable to the Owner for any excess cost or damages occasioned to the Owner as a result of the actions above set forth.
- D. The Contractor, in the event of such suspension or termination, shall not be entitled to receive any further payments under the contract until the work is wholly finished. Then, if the unpaid balance under the contract, shall exceed all expenses of the Owner as certified by the Consultant, such excess shall be paid to the Contractor; but, if any such expenses shall exceed the unpaid balance as certified by the Consultant, the Contractor and the Contractor's surety shall be liable for and shall pay the difference and any damages to the Owner.
- E. In exercising Owner's right to secure completion of the work under any of the provisions hereof, the Owner shall have the right to exercise Owner's sole discretion as to the manner, methods and reasonableness of costs of completing the work.
- F. The rights of the Owner to suspend or terminate as herein provided shall be cumulative and not exclusive and shall be in addition to any other remedy provided by law.
- G. The Contractor, in the event of such suspension or termination, may be declared ineligible for Owner contracts for a minimal period of twelve (12) months. Further, no contract will be awarded to any Contractor who lists in proposal any subcontractor whose prior performance has contributed, as determined by the Owner, to a breach of a contract. In order to be considered for State awarded contracts after this period, the Contractor/subcontractor will be required to forward acceptance reports to the Owner regarding successful completion of non-

State projects during the intervening twelve (12) months from the date of default. No State contracts will be awarded to a Contractor/subcontractor until the ability to perform responsibly in the private sector has been proven to the Owner.

ARTICLE 30 - RECORD DRAWINGS

- A. Contractors shall, at the completion of their work and prior to submission of request for final payment, complete and turn over to the Consultant a marked up set of drawings provided for construction. The corrections shall show all field changes that were made to adopt to field conditions, changes resulting from contract Change Orders and all buried installations of piping, conduit, and utility services. All buried and concealed items both inside and outside the building shall be accurately located as to depth and referenced to two permanent features such as interior or exterior wall faces and dimensions shall be given in a neat and legible manner in a contrasting colored pencil or ink.

ARTICLE 31 - WARRANTIES AND OPERATING INSTRUCTIONS

- A. Warranties and operating instructions of various equipment items, according to the manufacturer's policy covering their products, shall be delivered in three (3) copies to the Consultant prior to submission of the final pay estimate.

ARTICLE 32 - GENERAL GUARANTEE

- A. Neither the final certificate of payment nor any provision in the contract documents for partial use or occupancy of the premises by the Owner shall constitute an acceptance of work not done in accordance with the contract documents or relieve the Contractor or the Contractor's sureties of liability in respect to any express warranties or responsibility for faulty materials, workmanship or liquidated damages.
- B. The Contractor or the Contractor's sureties shall remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of one (1) year from the date of final acceptance unless a longer period is otherwise specified. The Owner will give notice of observed defects with reasonable promptness.
- C. In case of default on the part of the Contractor in fulfilling this part of the contract, the Owner may correct the work or repair the damage and the cost and expense incurred in such event shall be paid by or recoverable from the Contractor.
- D. Should Contractor be required to perform tests that due to climatic conditions must be delayed, it is understood that such tests will be accomplished by Contractor at the earliest possible date with the provisions of the General Guarantee beginning upon satisfactory completion of said test. The responsibility of the Contractor under this section will not be abrogated if the Owner should elect to initiate final payment.

ARTICLE 33 – DOMESTIC PRODUCTS PROCUREMENT

- A. In accordance with the Missouri Domestic Products Procurement Act (Senate Bill 74, 84th General Assembly, First Regular Session), any manufactured goods or commodities used or supplied in the performance of this contract or any subcontract thereto shall be manufactured, assembled or produced in the United States, unless the specified products are not manufactured, assembled or produced in the United States in sufficient quantities to meet the contracts requirements, or if obtaining the specified products manufactured, assembled or produced in the United States would increase the cost of this contract for purchase of the product by more than ten percent.
- B. The contractor shall certify, through each pay application, that all manufactured goods or commodities used or supplied in the performance of the work for which payment is requested were manufactured, produced or assembled in the United States. If the goods used or supplied in the performance of the work for which payment is requested were not manufactured, produced or assembled in the United States, (2) are not manufactured in sufficient quantities to meet the needs of this contract, (3) cannot be manufactured, assembled or produced in the United States within the necessary time to meet the requirements of this contract, or (4) would increase the cost of this contract for the purchase of the product by more than ten percent (10%) if purchased from a manufacturer or producer in the United States.

AFFIDAVIT OF COMPLIANCE WITH PREVAILING WAGE LAW

I, _____ do hereby certify under penalty of perjury:

Project Name: _____

- 1) That all of the information in the payroll reports for this project is true and correct.
- 2) All Persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly from the full wages earned by any person, other than permissible deductions such as FICA, Medicare, Federal Income Taxes, State Income Taxes, State Disability (SDI) Court Ordered Wage Attachments, 401K Plans.
- 3) That any payrolls otherwise under this contract required to be submitted for the project are correct and complete; that the wage rate for the workers are not less than the applicable wage rates contained in the Prevailing wage determination, as provided by the Division of Labor Standards and incorporated into the contract; that the classifications set forth therein for each worker conform with the work performed.

DATED THIS _____ day of _____, 20__

(Name of Contractor)

BY _____
(Typed or printed name)

(Signature)

TITLE: _____



Frank Hall – Select Laboratory Assessment Report

HERA Laboratory Planners (Health, Education, + Research
Associates)

April 11, 2025



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Introduction:

Health, Education, + Research Associates (HERA) was asked to assess the conditions of 20 laboratories in Frank Hall, and help determine priorities for possible renovations to these labs. HERA made an onsite visit in March 2025, during spring break, to review the laboratories identified by Landyn Smith, Interim Director of Facilities and Planning.

Executive Summary:

This report is divided into three sections:

- Priority suggestions for renovations
- Lab summary and assessment sheets along with existing and renovation lab concept plans
- Rough order of magnitude cost estimate for replacing the lab fume hoods and casework

HERA suggests the following priority order for lab renovations for Frank Hall. This priority list focuses on safety items, items which should be renovated at the same time for efficiency, accessibility accommodations, then casework and countertop renovations. HERA provides additional thoughts on these topics in the next section of this report.

1. Repair failed fume hoods
2. Building mechanical system and hood exhaust system evaluation by a licensed engineer
3. Make building mechanical system upgrades and replace the existing fume hoods
4. Evaluate chemical usage and add safety showers and fire extinguishers in higher hazard labs
5. Renovate the areas around doorways to meet accessibility requirements
6. Add a second means of egress for labs 106, 121, and 124
7. Renovate the existing labs to create accessible work areas
8. Full renovation of the laboratory casework, countertops, and fixtures

Lab assessment forms follow, with the key finding being that majority of the existing casework is in need of replacement.

Existing and renovation lab concept plans are also provided. Our major suggestion is to consider moving away from diamond or barbell shaped student workstations and to move to center islands, as this will improve the flow of people in labs and keep anyone's back from being to the instructor during demonstration or lecture.

Rough order of magnitude price estimate for the fume hoods, and casework are detailed provided in Section 3 of this report.

Section 1: Summary and Priority Suggestions

The labs surveyed have been well maintained, but much of the existing casework is damaged and three of the fume hoods had labels indicated they had failed their most recent safety testing. HERA was told onsite that parts of the mechanical system which serves the fume hoods and labs are reaching or has reached the end of their usable life and will need to be replaced.

Chemical fume hoods are key safety devices which allow for the safe use of chemicals in laboratories, pulling fumes and other hazards away from a user, and especially their breathing zone. The three existing chemical fume hoods which have failed their safety tests should not be used until whatever is preventing them from providing a safe amount of ventilation is corrected.

First priority – repair failed fume hoods:

HERA suggests that priority is given to repairing or replacing the fume hoods which have failed their recent safety tests to get them functional. This may be an issue with the hoods themselves or the exhaust fans, air valves, or other parts of the mechanical system which supports the hoods.



Second priority – building mechanical system evaluation:

HERA suggests that the second priority is to have the building mechanical system and fume hood exhaust system be evaluated by a licensed engineer, to determine what parts of the system are in good repair and what needs to be replaced. Upon completion of the evaluation, the engineer can evaluate if the existing system can be temporarily divided into zones and isolate lab areas requiring renovations. The findings can be used to generate a budget for mechanical system component replacement and upgrade. There are fume hoods in laboratories outside the scope of this report. All existing fume hoods and the associated exhaust system be evaluated holistically for safety and energy efficiency.

Third priority – make building mechanical system upgrades and replace the existing fume hoods:

The next priority would be to make the mechanical system upgrades identified from the study listed in priority two above. Ideally, along with the system upgrades would be

replacing the existing fume hoods and fume hood base cabinets, as the number, type, and size of fume hoods drives the air flow capacity and thus sizing of the mechanical systems.

Fume hood replacement has several considerations. While replacing all of the fume hoods at once would mean the building can't be used for laboratory activities during the renovation, this would be the most efficient option in time and cost for replacing the major components the mechanical system and for balancing the supply and exhaust for all of the labs. Understanding that this may not be feasible, it may be possible to phase the replacement of the fume hoods, perhaps in groups of nearby lab spaces, so that some lab space can remain functional.

The mechanical plan shows two main supply fans to the building and around 40 exhaust fans, likely one fan per fume hood. Fans for a few other exhaust items, for example volatile storage exhaust fans are also present on the roof. If the supply fans need to be replaced, it is possible one fan could be replaced and then the other, but only if each fan can support the whole building during replacement.

Replacing the fume hood exhaust fans requires a number of questions to be answered to determine how that should best be done.

The current hoods have on / off switches. If Lincoln wants on / off switches per hood, one exhaust fan per hood likely needs to be maintained. If Lincoln does not require on / off switches per hood, you may be able to gang adjacent fume hoods together with one larger exhaust fan. There is likely some efficiency in cost in having a smaller number of larger exhaust fans, both in upfront cost and maintenance costs.

Another consideration in fume hood replacement relates to fume hood operation. It is generally considered good practice to have fume hoods run 24/7. This keeps the hoods always exhausting air, so that if experiments are run overnight in the hoods any gases or vapors from those are being removed, so the gases do not building up in the hood. It is also considered a good idea to have the air in labs being removed and replaced with fresh air frequently, for example 6 air changes per hour, to prevent chemical hazards from building up in the room. If the fume hoods are constantly exhausting air, the exhaust from the hoods can be partly or completely used to create the room air changes.

Given the age of the building, and the on / off function, it is likely that the fume hoods are constant air volume (CAV), meaning that when the fume hoods are on, they always exhaust the same volume of air, regardless of the sash position. Lincoln may want to consider another option for exhausting the fume hoods, variable air volume (VAV). In a VAV system, the mechanical system reacts to the position of the fume hood sash. As you open the sash, the fume hood exhausts more air and supply provides more room into the air to

balance the flow, and as you close the sash, the fume hood exhaust volume drops, as does the supply volume. VAV fume hoods always exhaust some air, to keep the hoods negative to the room. VAV systems are more costly in both upfront costs and maintenance costs, but much lower in operating costs.

The ongoing operating cost difference between a CAV and VAV system is substantial, assuming the hoods are on 24/7. To illustrate this, below is cost data from a Labconco fume hood brochure (Protector Echo & Airo Filtered Fume Hoods, 02/12/2020) for yearly operating and maintenance costs, increased by 12% to account for inflation, approximate costs could be:

CAV - \$13,627 x 14 fume hoods = \$190,778 per year estimated operating costs

VAV - \$9,868 x 14 fume hoods = \$138,165 per year estimated operating costs

Note that the 14 fume hoods counted above include the hoods HERA surveyed, but there are additional fume hoods in the building which would also need to be considered when determining if the mechanical system and hoods should be CAV or VAV.

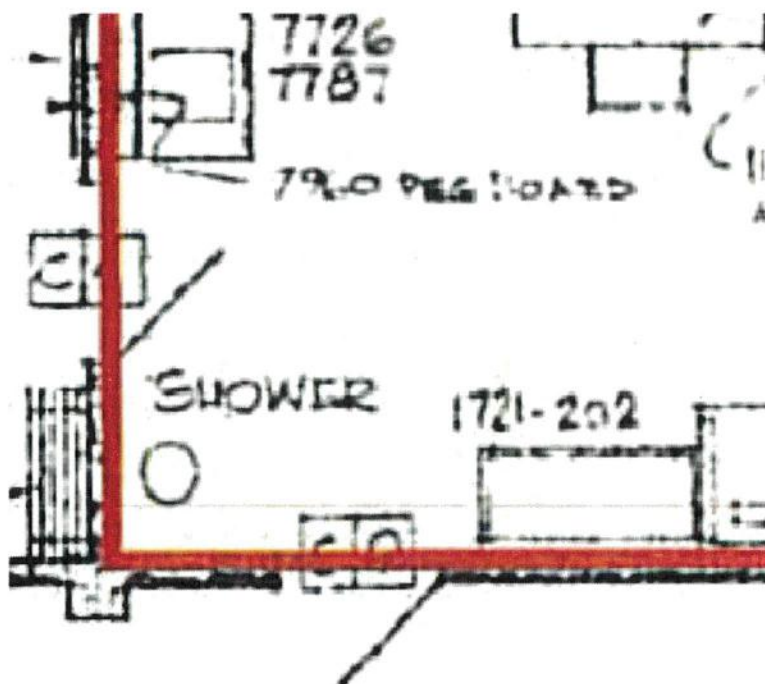
Fourth Priority – Evaluate chemical usage and add safety showers and fire extinguishers in higher hazard labs

HERA notes that while drench hose type eye wash units are available in all of the labs which appear to have chemical use, safety showers were not present in the labs surveyed. HERA suggests Lincoln University should evaluate chemical use per lab and consider if safety showers should be added to any of labs as they are renovated. This would help bring the labs in compliance with OSHA regulations. OSHA standard 29 CFR 1910.151(c) requires showers in locations that have exposure to injurious corrosive materials. NFPA 45 is another adopted standard that requires showers in labs with more than 5 gallons of corrosive or flammable liquids stored, handled, or used

The ANSI/ISEA_Z358.1-2014 American National Standard for Emergency Eyewash and Shower Equipment, are voluntary standards, widely used and applied to instructional laboratories. The standards offer performance and use requirements for eye wash and safety shower units but do not indicate when a safety shower is or isn't required. The determination of what constitutes a hazard requiring a safety shower is left up to the owner, generally their environmental / occupational health and safety office or a similar group or person. In HERA's experience safety showers are generally seen in laboratories where acids are used. HERA recommends safety showers in Chemistry, Biology, and other laboratories with chemical use to accommodate corrosive chemical use and allow for future flexibility.

If safety showers will be added as part of the lab improvements, a location will need to be identified in each lab for these to be located during the renovation; hot and cold water will need to be run to these areas, and a thermostatic mixing valve will need to be provided, to deliver the required tepid water to the safety showers. If floor drains are included at safety showers depends on local water jurisdiction, presence of a holding tank and/or University preference. If floor drains were desired at the showers, those drains would need be added.

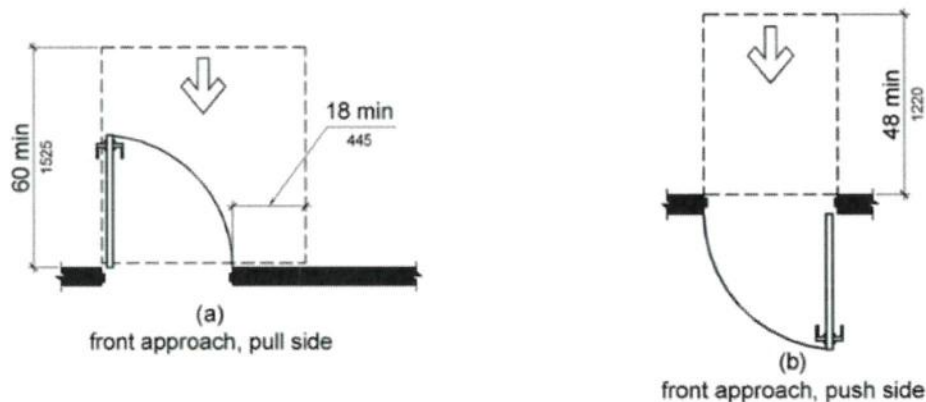
HERA also notes that the original plans, from 1966, show showers in some labs, although these showers are no longer in the labs, or possibly were never installed. Plumbing may already exist above the drop ceiling in some locations to support safety showers; for example, this clip illustrates a shower in the corner of lab 211 on the 1966 plans:



Fire extinguishers - While the teaching laboratories all had fire extinguishers, some of the support spaces did not. Fire extinguishers may need to be added to all lab areas if they contain hazards.

Fifth Priority – Renovate the areas around doorways to meet accessibility requirements

HERA noted during our survey that the majority of spaces surveyed looked to meet The Americans with Disabilities Act of 1990 (ADA Act), modified by the 2010 Standards, guidelines on door clearances, but there are a few areas which may require review. Below are two of the graphics for approach clearance at doors, from page 121 of the ADA Act, 2010 Standards:



Research Lab 103 doesn't meet ADA requirements, due to the addition of a shelving unit at the west doorway, and a narrow aisle in the lab due to the addition of wire shelving units, and some crowding of equipment/carts in the room.

The door from Autoclave room 104 to Microbiology 106 doesn't meet accessibility requirements. One option to resolve this would be to flip the door, and remove the tall cabinet next to the door.

Storage room 105, with the autoclave/sterilizer in 104 directly next to the doorway, would be difficult for someone in a wheelchair to operate, and it may be difficult for someone in a wheelchair to turn around in 105. Removing the door into 105, so that the doorway is only a cased opening, would be one way to resolve these concerns

Student Projects / Lizards / Animal Room 110/110A has an entry vestibule which is only 4'-0" deep, meaning that someone in a wheelchair can't turn around in the vestibule, and exiting from 110 doesn't look to have enough clearance at the door. HERA acknowledges this will be difficult to remediate short of removing the inner door entirely, but removing the inner door means the vestibule can't be used as an airlock into the animal room.

In 122, moveable objects are located near the doorway into 123, impeding full access to the doorway, see image to the right.

In 211 the addition of a table next to the doorway plus a fire extinguisher opposite narrows the aisle at the doorway.

The door into 311, from the hallway, is opened from within the room, and there is not enough clearance to the side of the door to access door handle to meet accessibility requirements.



Sixth Priority – Create a second means of egress for laboratories over 1,000 Square Feet.

Lincoln University's website includes a webpage titled "Laws, Regulations, and Guidance" (<https://www.lincolnu.edu/police/state-laws-regulations.html>) this website includes a list of applicable laws, regulations, guidance, and consensus standards. Included in this list is NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals.

NFPA 45, section 5.3, Means of Access to an Exit requires two exits from a laboratory if any of several conditions exist. The following situations listed in section 5.3 apply to the labs included in this assessment:

5.3.1 (3): *A laboratory work area within a Class B, Class C, or Class D laboratory unit exceeds 93 square meters (1,000 square feet).* Class B, C, and D labs refers to the amount of chemicals in the lab. While HERA doesn't know the exact amount of chemicals stored in all of the labs, the inclusion of a fume hood in the labs suggests that they are at least Class D laboratories.

5.3.1 (4): *a hood in a laboratory work area is located adjacent to the means of exit access.*

Labs 106, 121, and 124 currently only have one means of egress, are all over 1,000 square feet, and have fume hoods, and so are likely at least Class D laboratories. Lincoln University should consider if a second means of egress need to be provided for these labs.

Lab 106's main means of exit is the door to hallway on the south wall of the room. 106 has a door off the north wall, but this door exits into greenhouse space, so may not be considered a means of egress. Additionally 106 has a door off the south wall, but that would require exit via 104 and 103, and so may not qualify as a means of egress. Possibly an emergency exit only door could be added in the north east corner of the room, directly out of the building. HERA acknowledges that this would be a complicated and expensive change.

Lab 121's main means of exit is the door to hallway on the north wall of the room. There is a second door, into the adjunct storage room. Generally a second means of egress needs to be at least 1/3rd the diagonal distance of the room, and two doors are nearly adjacent to each other. Possibly an emergency exit only door could be added in the north west corner of the room, directly out of the building. HERA acknowledges that this would be a complicated and expensive change.

Lab 124's main means of exit is the door to hallway on the north wall of the room. There is a second door, into the adjunct storage room. As with 121, this second door is less than

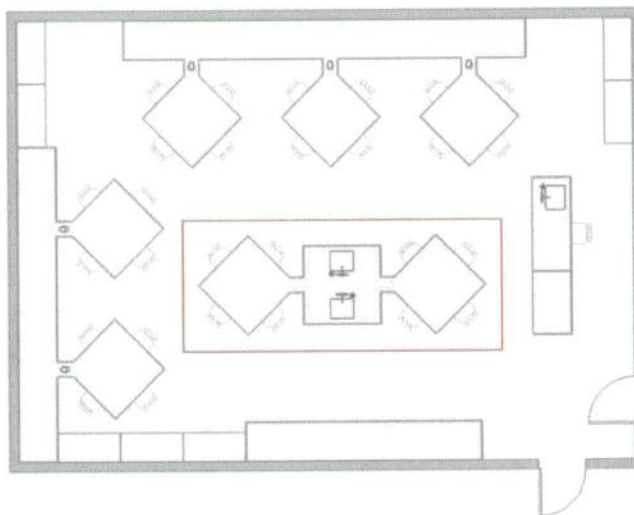
1/3rd of the diagonal distance of the room. It appears possible to add a second door of this room which could open to the hallway, near the north east corner of the room.

Seventh Priority - Renovate the existing labs to create accessible work areas

Currently none of the labs have casework configurations which accommodate someone in a wheelchair using the labs. If the University wishes to accommodate wheelchair use in the labs, the following changes are recommended:

- Replace at least one fume hood in each lab with an accessible fume hood with the worksurface at 34" above the floor, and the area below the hood should be clear, for a wheelchair roll into the clear knee space.
- At least one sink in the lab should be accessible. Like the accessible fume hood, the work surface should be 34" above the floor, and area below the sink must be clear.
- Lower one work area so that it 34" above the floor, and clear underneath.
- Aisles need to be at least 3'-0" wide, and there needs to be a clear area in the lab of at 5'-0" clear diameter for someone in a wheelchair for someone to turn around.

As an example, in lab 124, the center student stations could be renovated to lower the whole assembly to 34" above the floor, and the area at one sink could be open below for someone in a wheelchair to roll underneath, see area with a red box around it to the right. Technically, Lincoln would only need to lower one student workstation and one of the sinks, but due to how the student diamond stations and sinks are located next to each other, it would be difficult to lower only pieces of the assembly.



Eighth Priority – Full renovation of the laboratory casework, countertops, and fixtures:

As noted near the beginning of the report, the existing casework in most labs is damaged, with missing handles, drawers and doors which won't fully close, as well as delaminated sections, and other issues. The countertops are well worn and uneven in some places. HERA recommends the lab casework, sinks, and fixtures be replaced.

To the right and below are a couple examples of damaged areas of casework:



Code Review – on if fire sprinklers need to be added or not

Lincoln University's website includes a webpage titled "Laws, Regulations, and Guidance" (<https://www.lincolnu.edu/police/state-laws-regulations.html>) this website includes a list of applicable laws, regulations, guidance, and consensus standards. Included in this list is NFPA 45, NFPA 101, and the International Building Codes.

HERA's reading of NFPA 101, Life Safety Code, suggests that fire sprinklers will likely need to be added during a renovation. NFPA 101 references NFPA 45 for Class classification of laboratory types, Class A, B, C and D. Class A labs have the highest amount of flammable chemical use and storage, Class D labs have the lowest amount of flammable chemical use and storage. See NFPA 45, Tables 9.1.1 (a) and (b) for specifics on maximum quantities of flammable and combustible liquids in laboratory units. Most teaching labs are generally classified as Class C or Class D.

NFPA 101 Chapter 39 lists the requirements of Class D labs and Chapter 40 lists the requirements of Class C labs. EH&S will need to determine the class of the labs per NFPA 45, but if any of the labs are Class C, the automatic extinguishing systems are required (NFPA 101, section 40.3.2.1). If the labs are Class D labs, then the labs either need to be separated by a 1-hour fire barrier without windows, or provide automatic extinguishing systems (NFPA 101, section 39.3.2.1, which references sections 8.7.1.1). As the existing labs have interior glazing, see image to the right, and may not go all the way to deck, and the floors may not be rated, the above seems to indicate that automatic extinguishing systems are required.



NFPA 101 Chapter 43 requires a sprinkler system be provided in renovations / rehabilitation work involving over 50% of a floor area. (Section 43.6.4 Extinguishing Systems). The total floor area of the first floor is roughly 20,000 square feet. The combined total of the labs to be renovated on the first floor is roughly 6,300 square feet, so the proposed renovation is under the percentage which would require the addition of a sprinkler system. The proposed renovations of the labs on the second and third floors are well under 50% as well.

The International Existing Building Code (IEBC), Chapters 7, 8, and 9, all titled 'Alterations' apply to various levels of renovation of a building. Scope Level 3 (Chapter 9) only applies when the work area of the building exceeds 50% of building area, and so doesn't apply to this project. Scope Level 2 (Chapter 8) applies with doors or windows are added or

eliminated, “the reconfiguration or extension of any system, or installation of any additional equipment” and area is less than 50% of the building (Chapter 6, 603.1 Scope). Scope Level 1 (Chapter 7) is the least restrictive, and covers the replacements of items to serve the same purpose as the original. Depending on the level of renovation selected for this project, it is either going to fall under Scope Level 1, which is Chapter 7 of IEBC, or Scope Level 2, which is Chapter 8 of IEBC.

IEBC Chapter 7 requires that changes don’t make the building less safe, including the level of fire protection provided, and means of egress – which is to say a safe path out of the building in case of fire or other emergency. Chapter 7 does not require the addition of sprinklers to the building.

IEBC Chapter 8 requires sprinklers be provided if certain conditions are met, but these don’t appear to apply to this project. The renovation is not more than 50% of a floor, it is not a high-rise building, the building doesn’t have more than one tenant, and is not a building providing medical care as far as HERA is aware.

A more in-depth evaluation of the code requirements and the existing construction should be performed by a professional surveyor and code consultant to understand the existing level of fire protection and assess the best path to compliance with adopted codes and reference standards. NFPA and IEBC requirements as summarized, and constitutes the most stringent applicable requirement, pointing toward the need to add a sprinkler system. This can be verified by a code consultant.

Section 2: Existing Lab Summaries and Assessment

The following section includes for each lab or group of lab:

- A form for each lab, capturing key information and an assessment
- A sheet with a few representative images of the lab
- A sketch of the existing casework configuration and a possible renovation option

Renovation options:

The simplest renovation would be to keep the overall lab layouts the same, with generally the same casework layouts. This would also likely be economical because it wouldn't require moving any of the sinks. Moving sinks requires the supply and drain piping to be relocated, and that is costly. Some comments on the approach of keeping the same casework layouts:

Some of the labs had the undercounter cabinets in use, but in most rooms the undercounter cabinets were empty. This may be because of the poor condition of the existing casework, or maybe because the casework was not useful; for example, having drawers when open cabinets are needed. If different casework configurations would be helpful, this renovation can be the chance to select the correct cabinet type for each area.

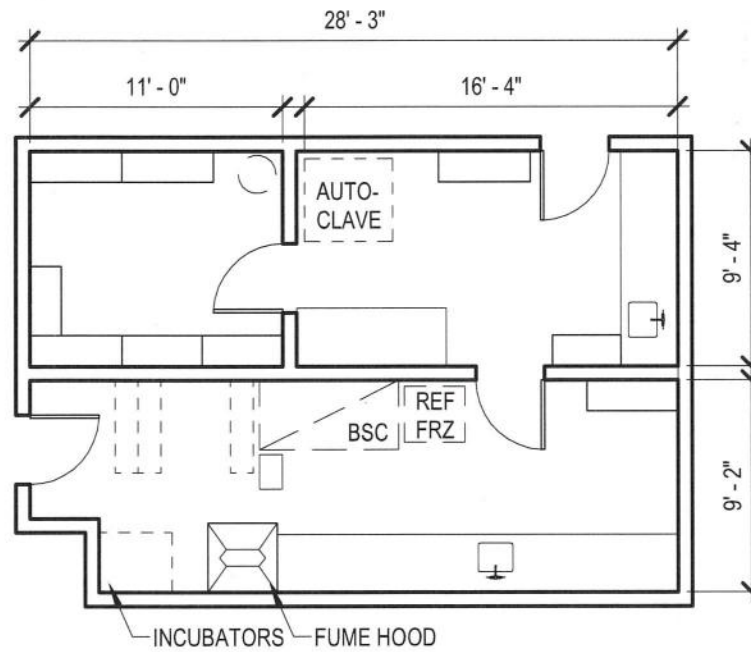
This may be an opportunity to consider different lab layouts. Many of the existing Biology labs have diamond shaped student stations, in a barbell-like layout. This layout maximizes the amount of casework and storage space, but only provides narrow aisles between the student stations and provides limited access to the casework on the perimeter of the room. Depending on the room, this type of layout also means some students have their backs to the teaching wall / projector / blackboard.

The renovation options show fixed casework for Biology and Chemistry and movable tables for Physics, to generally match the existing conditions. Some of the Biology labs could have movable tables instead of fixed, if that would be preferable, and if piped gases or plumbing isn't needed at the student stations.

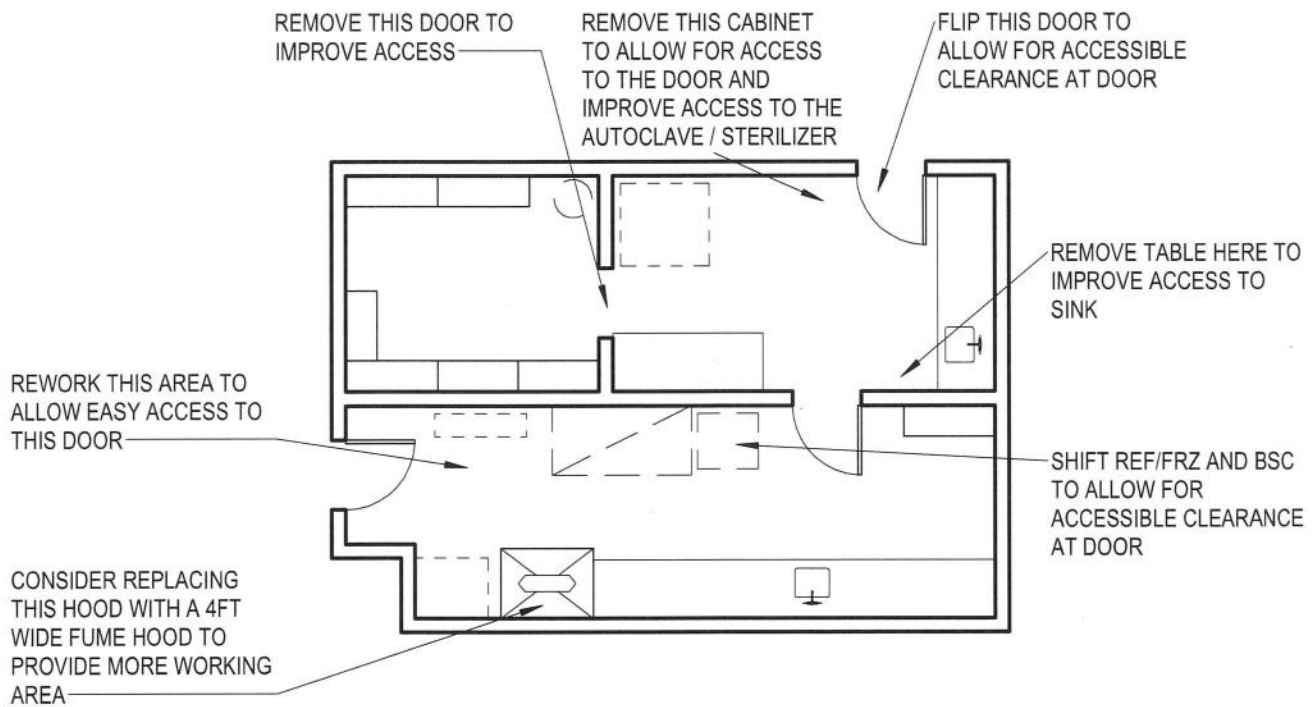
Room Name	Microbiology Prep
Room Number	103
Room description	Small long room
Overall assessment	The addition of shelving units has reduced the usable aisle to a very narrow aisle; casework is damaged in places, shelf above door a possible safety concern
Room dimensions	8.6' H, 9' W, 28' H
Ceiling	ACT, in good shape
Wall	CMU, good shape
Floor	VCT, shows some wear at BSC
Door size	36", 32"
Approximate occupant capacity	1-4
Fume hood	(1), 3 ft wide, services: CW, NG, AIR
Countertop	Composite with black coating
Casework	Wood
Sinks	(1), (20"W, 17"D, 10"H), with drench hose type eye wash
Aisleway average width	18 at narrowest point, 42 gen
Safety Shower?	no
Eye Wash?	yes
Chemical Storage Cabinets?	no
Fire Extinguisher?	no
Gases?	at FH
Major equipment	BSC (Labconco Delta Series, Class II) ovens, refrigerator/freezer combo
Adequate data and electrical outlets	power at walls, no data
ADA accommodations?	aisle too tight

Room Name	Microbiology Prep
Room Number	103





EXISTING



PROPOSED

Room Name	Autoclave
Room Number	104
Room description	Equipment room with sterilizer
Overall assessment	Floor tiles broken or missing, could be replaced or repaired at the autoclave/sterillizer; shelf above door a possible safety concern
Room dimensions	8.5' H, 9.3' W, 16.5' H
Ceiling	ACT, Good shape
Wall	CMU, good shape
Floor	VCT, in need of repair/replacement
Door size	36", 32", 32"
Approximate occupant capacity	1-4
Fume hood	no
Countertop	Composite with black coating
Casework	wood, good shape generally
Sinks	(1), (20"W, 17"D, 10"H), with drench hose type eye wash
Aisleway average width	38"
Safety Shower?	no
Eye Wash?	yes, at sink
Chemical Storage Cabinets?	no
Fire Extinguisher?	no
Gases?	no
Major equipment	autoclave, chamber, 19x19x36 (Steris Amsco 250LS), ovens
Adequate data and electrical outlets	disconnect box for autoclave, outlets on walls
ADA accommodations?	aisle too tight at door in 105

Room Name	Autoclave
Room Number	104



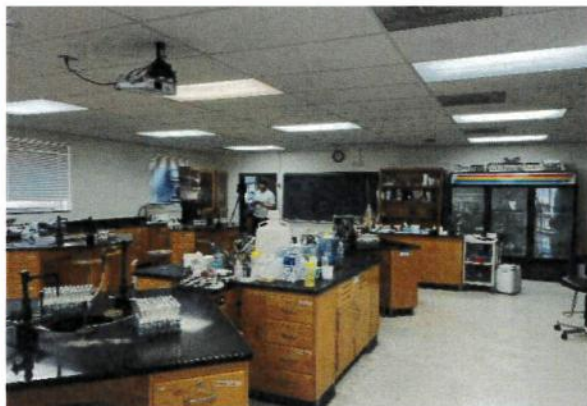
Room Name	Media Stor
Room Number	105
Room description	Room w shelving units, also has a floor drain
Overall assessment	Room has a slight odor of chemicals, may want higher air change rate. Determine if floor drain is in use, consider capping if not. Shelf above door a possible safety concern
Room dimensions	8.5' H, 11' D, 8.4'
Ceiling	ACT, good shape
Wall	CMU, good
Floor	VCT, some discoloration at floor drain
Door size	32"
Approximate occupant capacity	1-2
Fume hood	no
Countertop	no
Casework	wood and metal shelving; metal shelving shows corrosion
Sinks	no
Aisleway average width	36"
Safety Shower?	no
Eye Wash?	no
Chemical Storage Cabinets?	no
Fire Extinguisher?	no
Gases?	no
Major equipment	water heater
Adequate data and electrical outlets	disconnect box for water heater
ADA accommodations?	door area too narrow with autoclave into 104

Room Name	Media Stor
Room Number	105

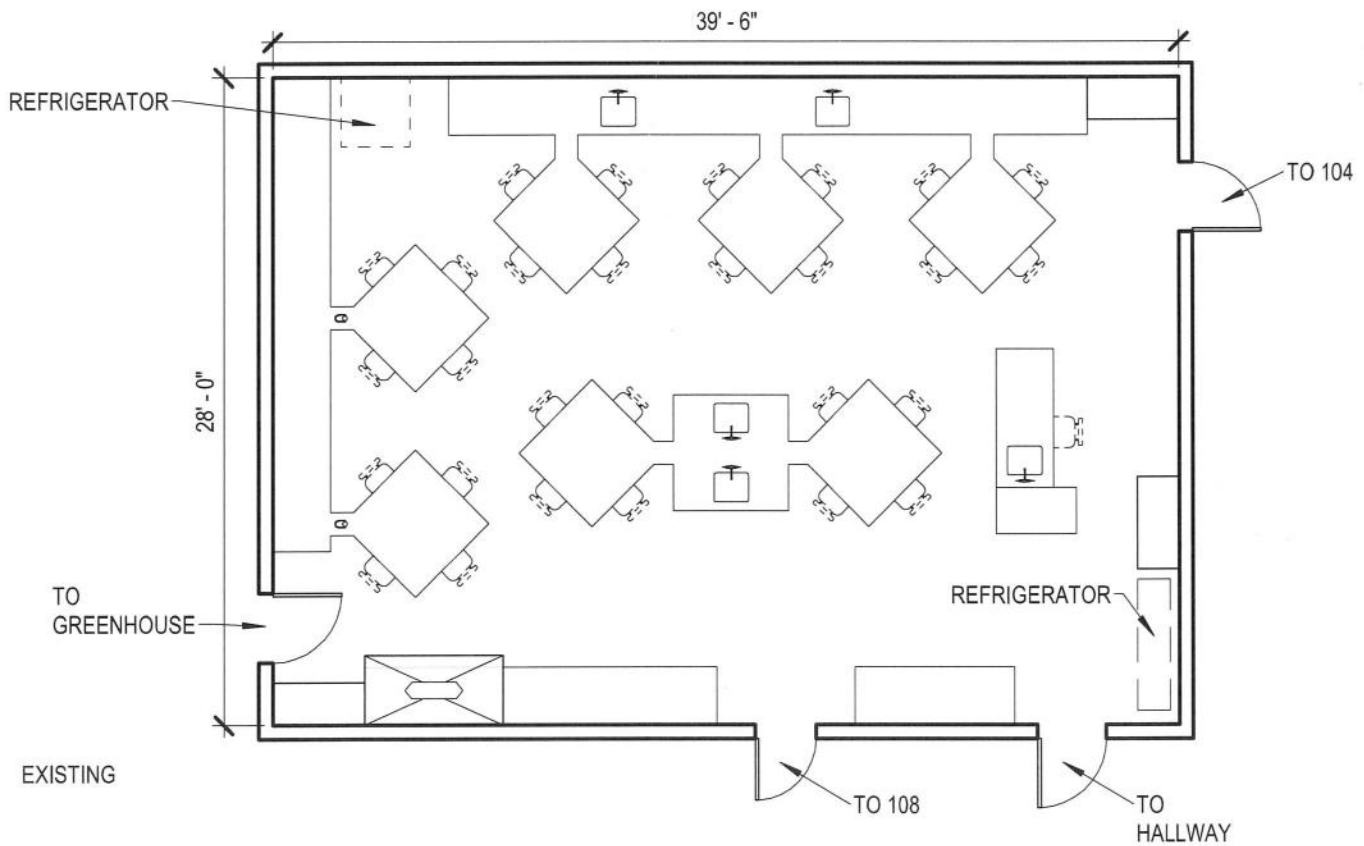


Room Name	Microbiology Lab (Bacteriology)
Room Number	106
Room description	Teaching lab with diamond shaped student workstations
Overall assessment	Casework generally in good shape, blackboard and projector screen separated, some equipment located where there is space, projector screen blocks access to casework
Room dimensions	8.5' H, 39' W, 28' D
Ceiling	ACT, some tiles show water damage
Wall	CMU
Floor	VCT, tile damaged near instructor's station
Door size	36", 36", 32"
Approximate occupant capacity	24, maybe 28
Fume hood	(1), 6ft wide, steam, CW, NG, AIR
Countertop	Composite with black coating, shows some wear
Casework	wood
Sinks	10 sinks - 7 round 12" dia, two (20"W, 17"D, 12"H square), instructor (13"W, 9"D, 8"H) - with drench hose type eye wash
Aisleway average width	62"
Safety Shower?	no
Eye Wash?	yes, at instructor sink
Chemical Storage Cabinets?	no
Fire Extinguisher?	yes, also first aid kit
Gases?	NG at student islands
Major equipment	ovens, 3 door refrigerator (broken), freeze dry system, table top sterilizer, large waterbath, centrifuge, microscope station
Adequate data and electrical outlets	1 wired data for microscope, power at walls &
	student stations
ADA accommodations?	Does not appear to have an accessible student station

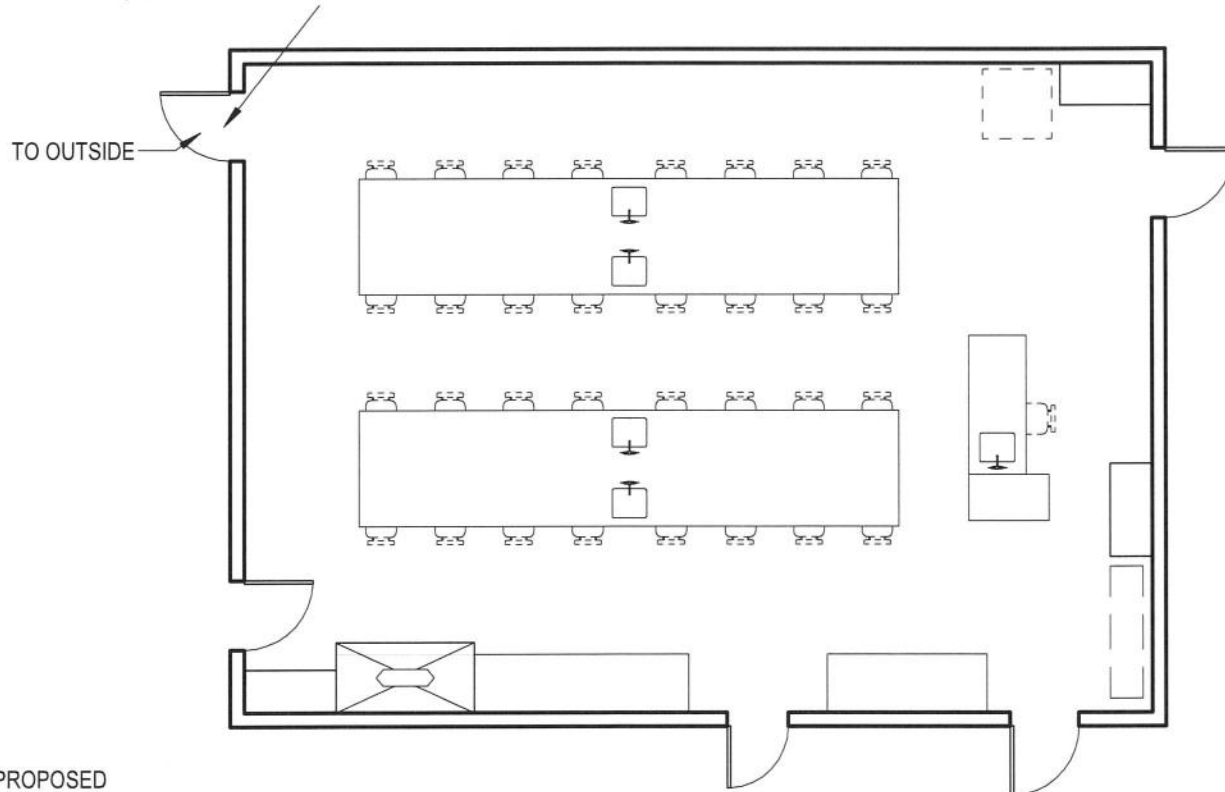
Room Name	Microbiology Lab (Bacteriology)
Room Number	106



NOTE THESE PLANS ARE ROTATED 90 DEGREES TO FIT ON THE PAGE



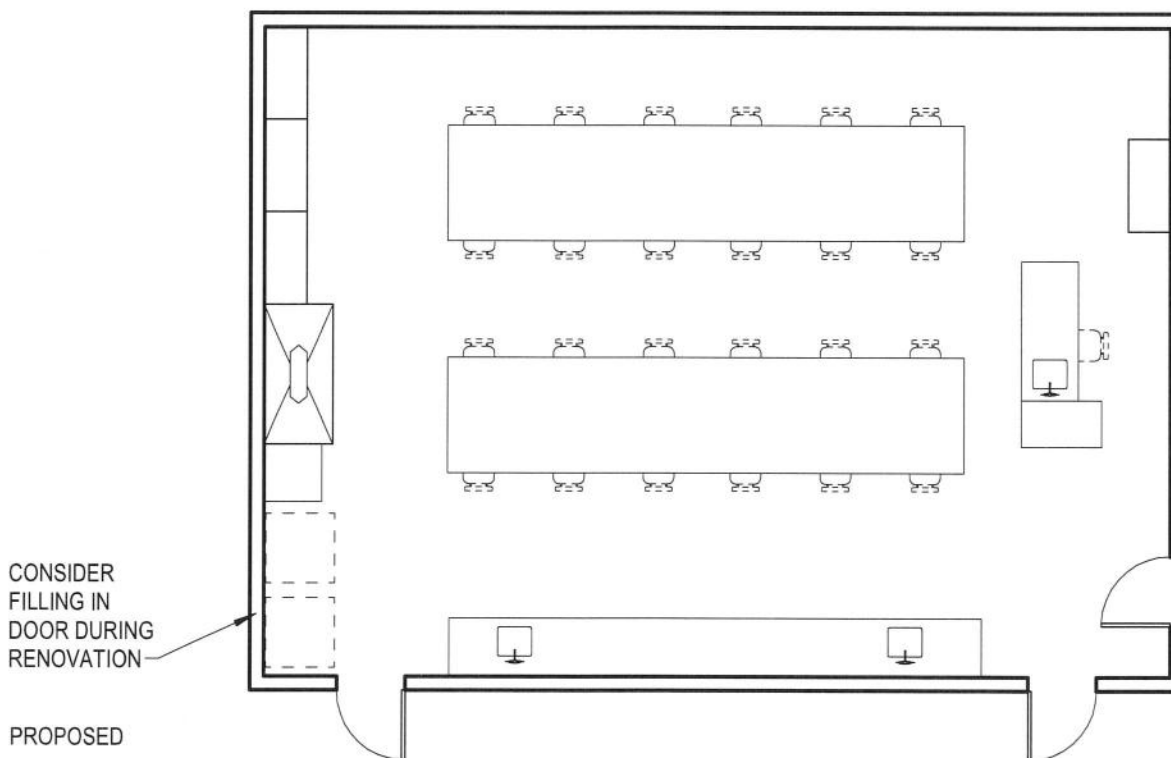
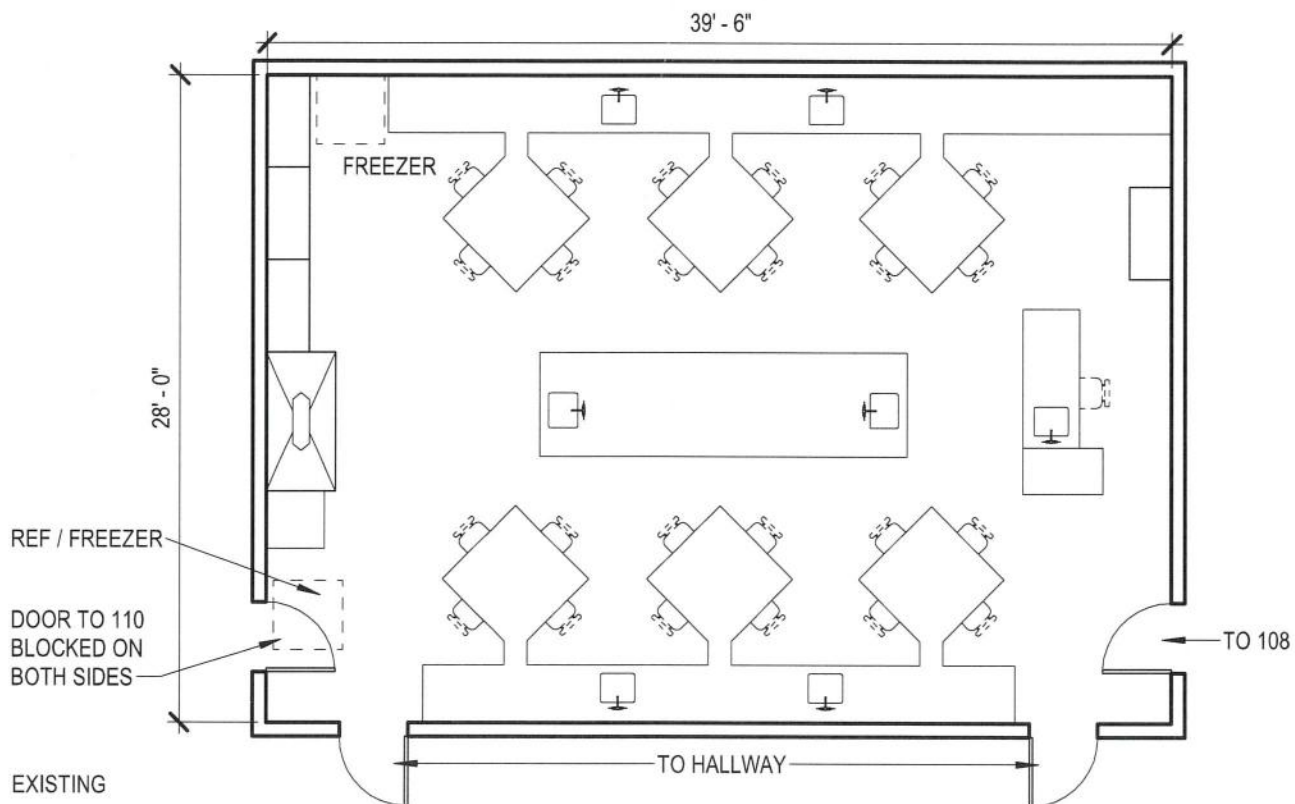
CONSIDER IF AN EMERGENCY EXIT DOOR IS REQUIRED SO THAT THIS LAB HAS TWO EXITS



Room Name	Biotechnology Teaching Lab (Physiology)
Room Number	109
Room description	Teaching lab with diamond shaped student workstations
Overall assessment	Casework is in need of replacement or repair, especially at the center island
Room dimensions	8.5' H, 33.1' W, 28' D
Ceiling	ACT, has some water damaged tiles
Wall	CMU, has one area of a different color paint
Floor	VCT, generally okay, has some spots of wear
Door size	36", 36", door blocked
Approximate occupant capacity	~18
Fume hood	(1), 6' wide, HW, CW, NG, Air, Steam
Countertop	Composite with black coating, uneven in some locations
Casework	wood, center island casework especially worn
Sinks	(8) - four (17"W, 20"D, 10"H); two - (22"W, 15, 9"H); one round 6" dia; one instructor (13"W, 9"D, 8"H)
Aisleway average width	46"
Safety Shower?	no
Eye Wash?	yes
Chemical Storage Cabinets?	yes, one yellow, one blue, one gray
Fire Extinguisher?	yes, with first aid kit
Gases?	NG at student stations
Major equipment	-80 freezer, refrigerator/freezer combo, ovens, water bath, centrifuge, water purifier
Adequate data and electrical outlets	at student stations, perimeter
ADA accommodations?	Does not appear to have an accessible student station

Room Name	Biotechnology Teaching Lab (Physiology)
Room Number	109

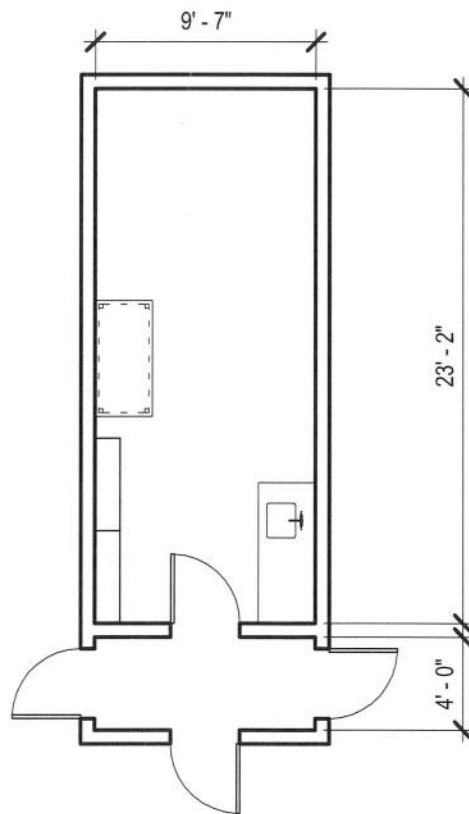




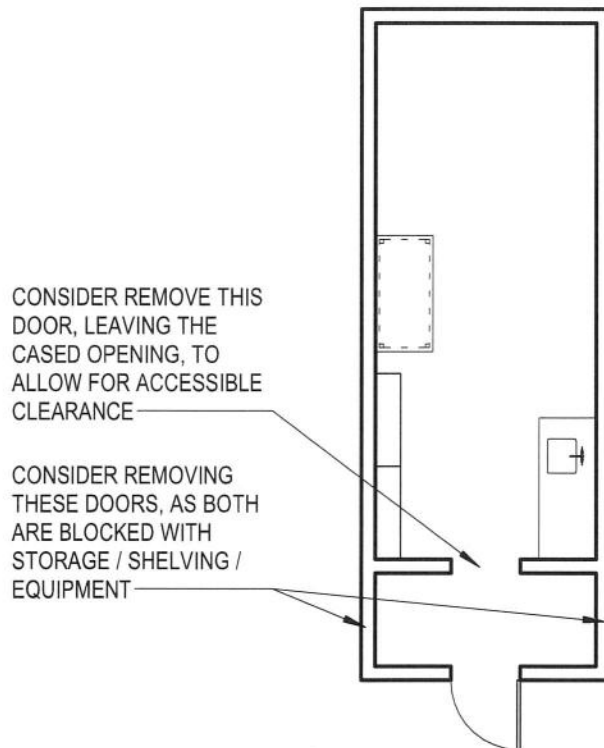
Room Name	Physiology Student Projects / Lizard Room / Animal Room
Room Number	110 / 110A
Room description	Small room for animal housing
Overall assessment	Assess current configuration against use, some equipment looked to not be in use.
Room dimensions	8.5' H, 24' W, 9.5' D
Ceiling	ACT
Wall	CMU
Floor	concrete
Door size	36" - door has vent/grill
Approximate occupant capacity	2-4
Fume hood	no
Countertop	Composite with black coating
Casework	Casework doors have white spots, possibly stains
Sinks	(1), (20"W, 17"D, 12"H), HW, CW
Aisleway average width	
Safety Shower?	no
Eye Wash?	no
Chemical Storage Cabinets?	no
Fire Extinguisher?	no
Gases?	no
Major equipment	incubator, chest freezer, shelving units, aquariums, rolling trash cans
Adequate data and electrical outlets	some at wall
ADA accommodations?	Vestibule likely doesn't meet ADA turn-around size

Room Name	Physiology Student Projects / Lizard Room / Animal Room
Room Number	110 / 110A





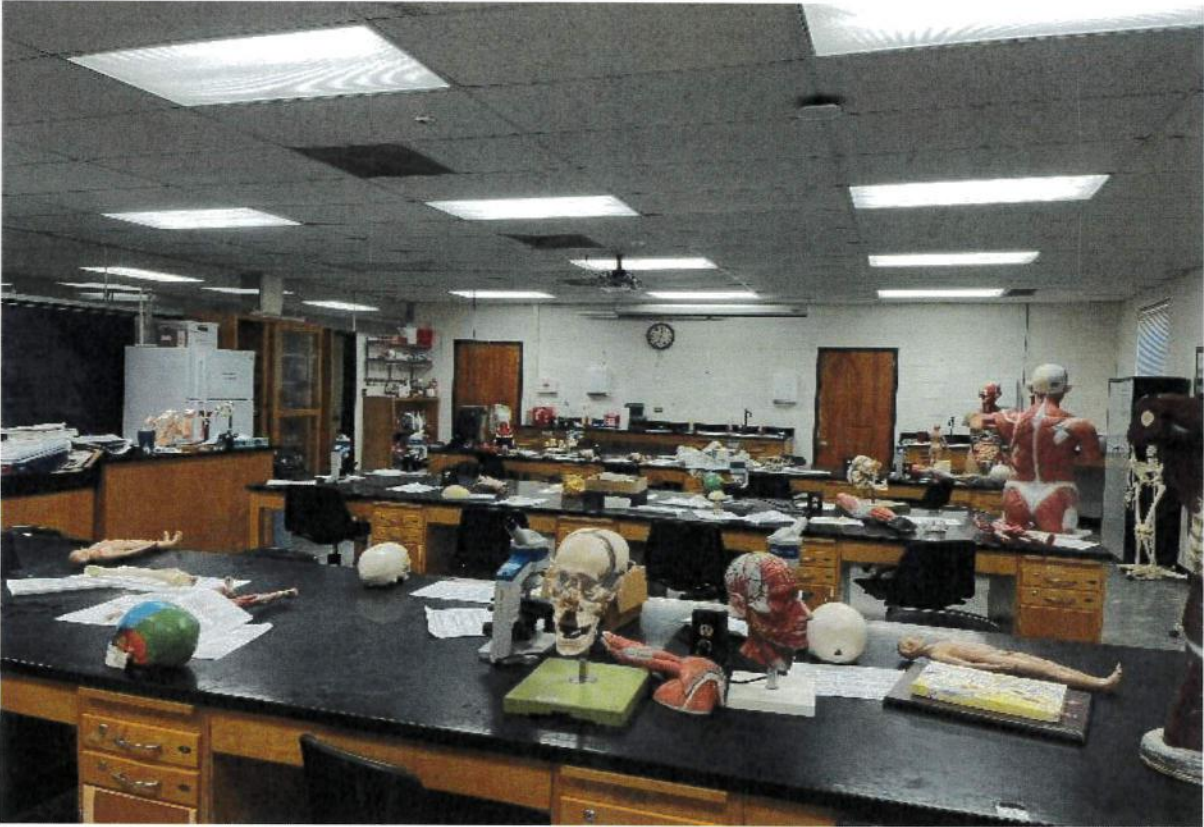
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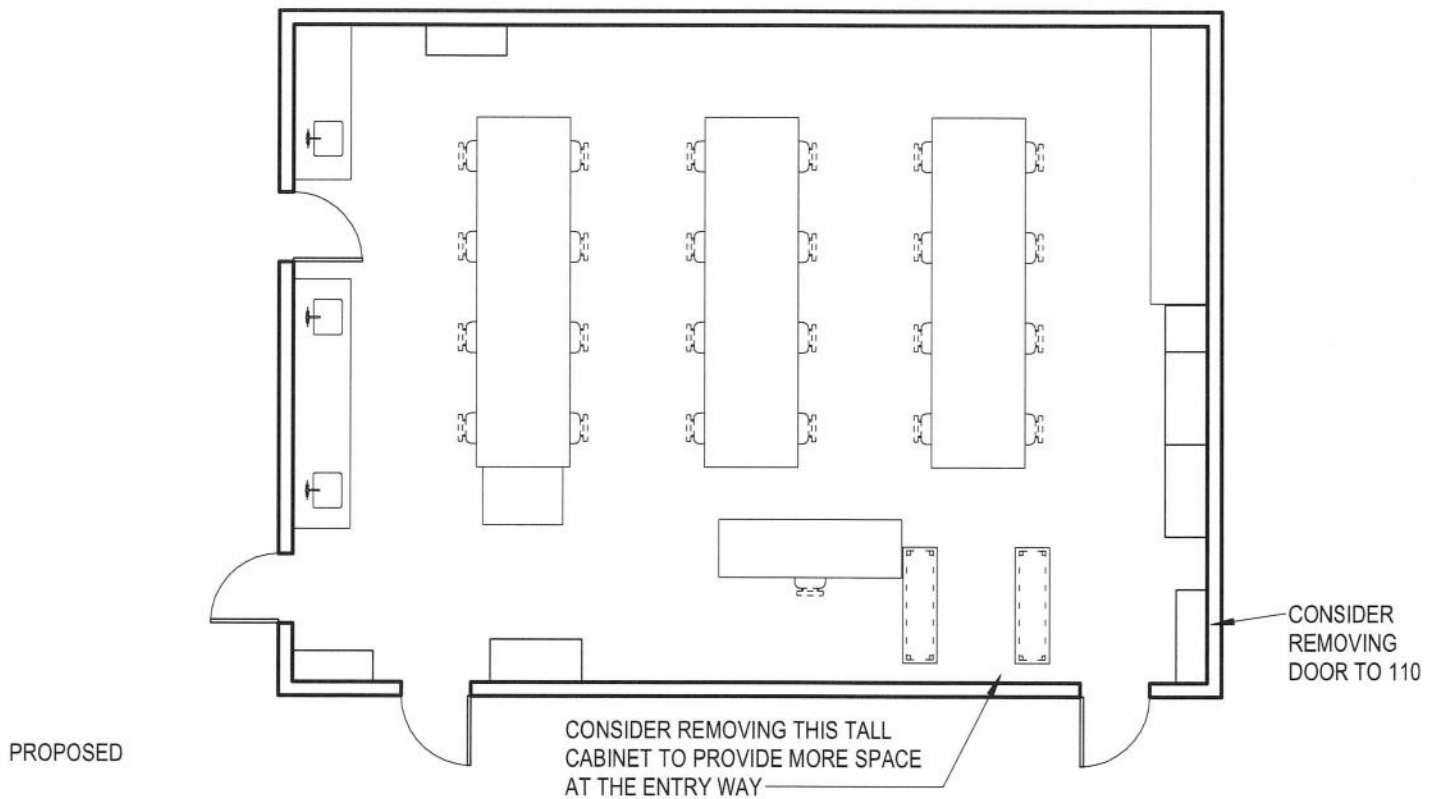
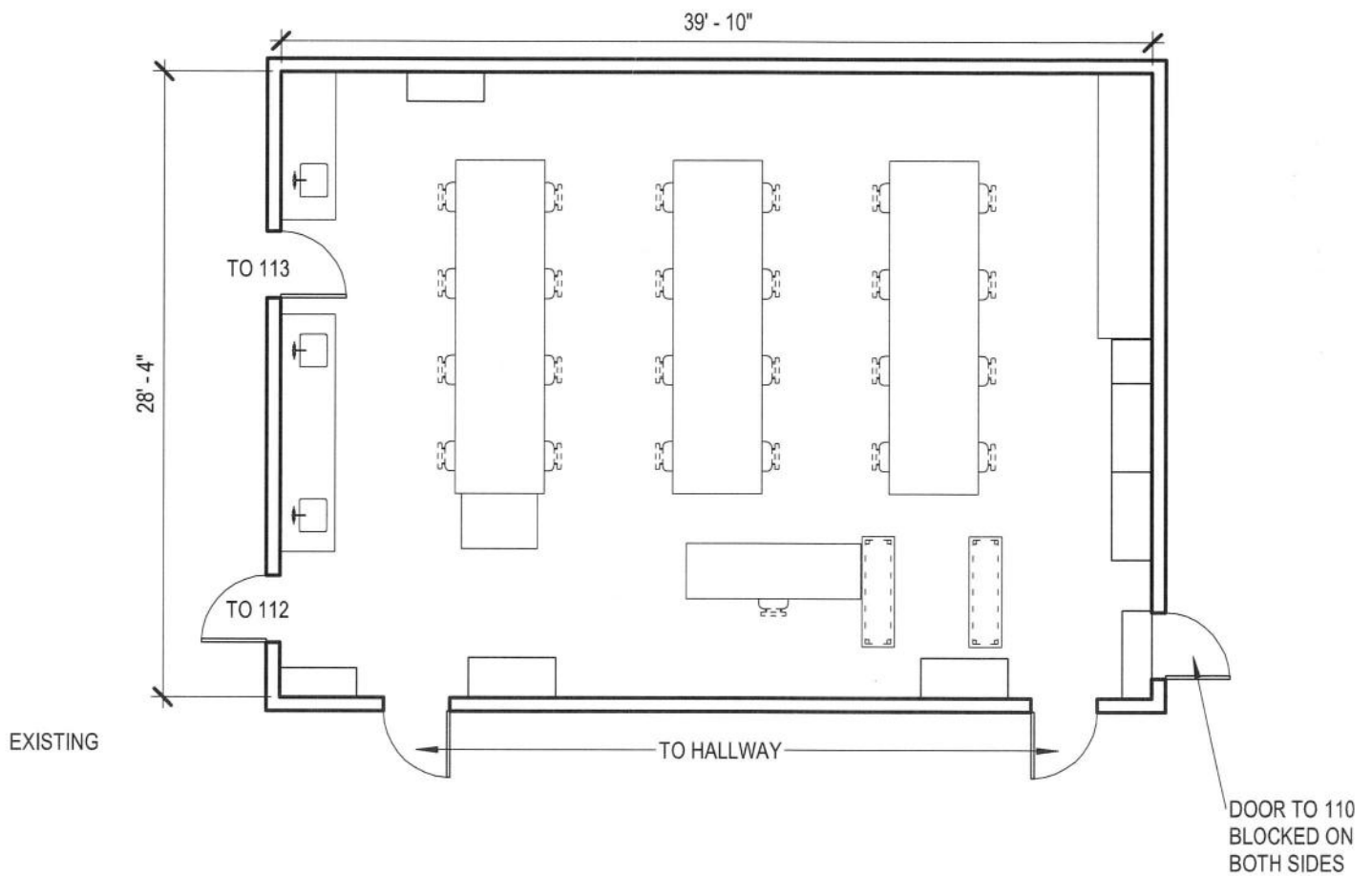


PROPOSED

Room Name	Anatomy & Physiology Lab (Anatomy Cytology Histology)
Room Number	111
Room description	Teaching lab w/ 3 fixed islands w/ perimeter casework
Overall assessment	Undercounter door cabinets are pretty worn, some handles missing or damaged; casework needs to be replaced
Room dimensions	8.5' H, 28' W, 39.5' D
Ceiling	ACT, has some water damaged tiles
Wall	CMU, okay
Floor	VCT, okay
Door size	3x 36" ; 1x 32"
Approximate occupant capacity	24
Fume hood	no
Countertop	Composite with black coating
Casework	Wood, UC door cabinets especially are worn
Sinks	4; two stainless steel, double bowl, one side (22"W, 16"D, 5"H); one side (16"W, 16"D, 8"H); epoxy (20"W, 17"D, 12"H); instructor (14"W, 9"D, 8"H)
Aisleway average width	65"
Safety Shower?	no
Eye Wash?	yes, at instructor sink, drench hose
Chemical Storage Cabinets?	no
Fire Extinguisher?	Yes, is first aid kit
Gases?	NG at instructor's station
Major equipment	Refrigerator/freezer combo, microscope cabinet and microscopes, anatomical models and skeletons
Adequate data and electrical outlets	Yes, Student islands have electrical pedestals
ADA accommodations?	Does not appear to have an accessible student station

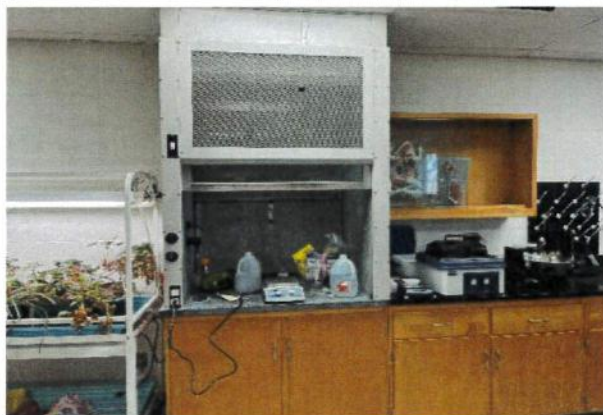
Room Name	Anatomy & Physiology Lab (Anatomy Cytology Histology)
Room Number	111

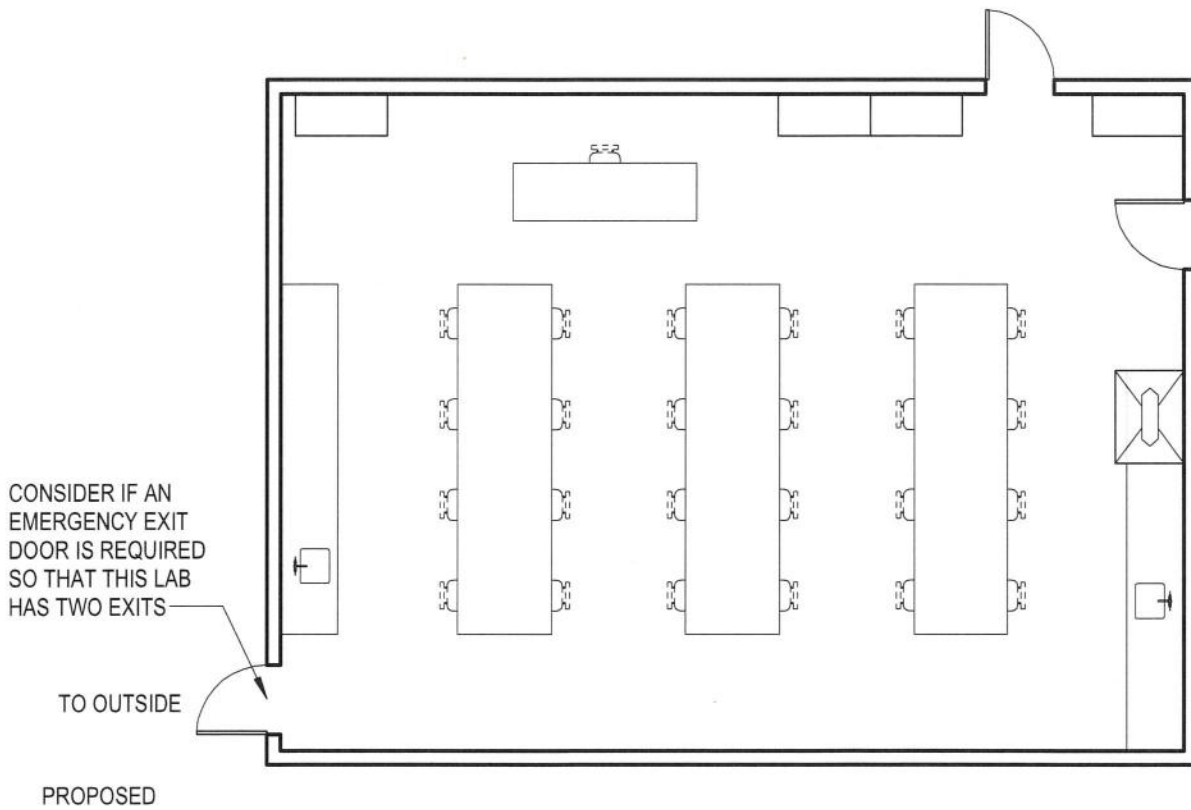
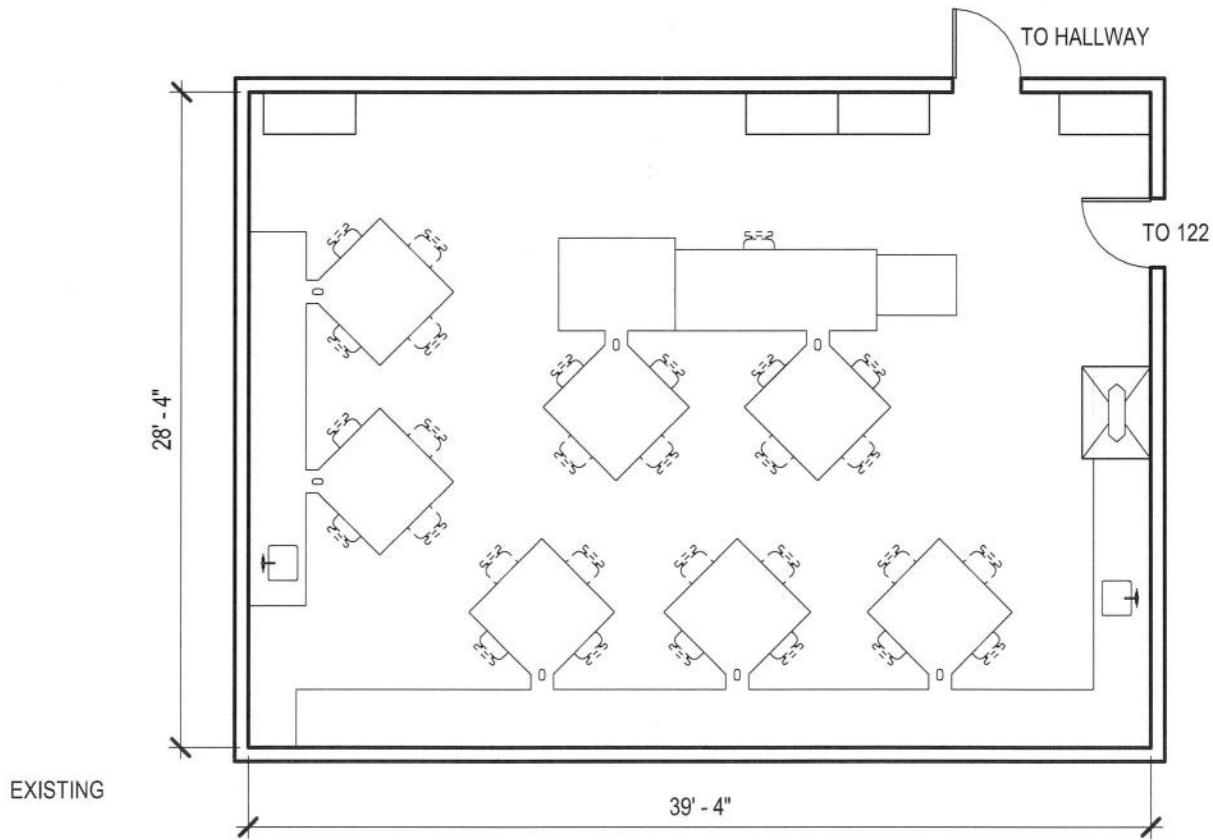




Room Name	General Biology Teaching Lab (Botany Lab)
Room Number	121
Room description	Teaching lab with diamond shaped student workstations
Overall assessment	Some delimitation of casework; needs to be replaced
Room dimensions	8.5' H, 28' W, 38.5' D
Ceiling	ACT, okay
Wall	CMU, mostly white with one small section of green
Floor	VCT, some are cracked and scuffed
Door size	36", 32"
Approximate occupant capacity	28
Fume hood	(1), 4', CW, NG
Countertop	Composite with black coating
Casework	Wood, some UC door cabinets are worn
Sinks	(10) sinks - 7 cup sinks at student stations (6"W, 3"D, 6"H) (1) cup sink is covered, (2) rectangular (20"W, 17"D, 10"H), (1) instructor sink (14"W, 9"D, 8"H)
Aisleway average width	53"
Safety Shower?	no
Eye Wash?	yes, at instructor station
Chemical Storage Cabinets?	no
Fire Extinguisher?	yes, with first aid kit
Gases?	NG at student stations
Major equipment	plant growth cart, aquarium, microscopes
Adequate data and electrical outlets	at student islands and some at perimeter
ADA accommodations?	Does not appear to have an accessible student station

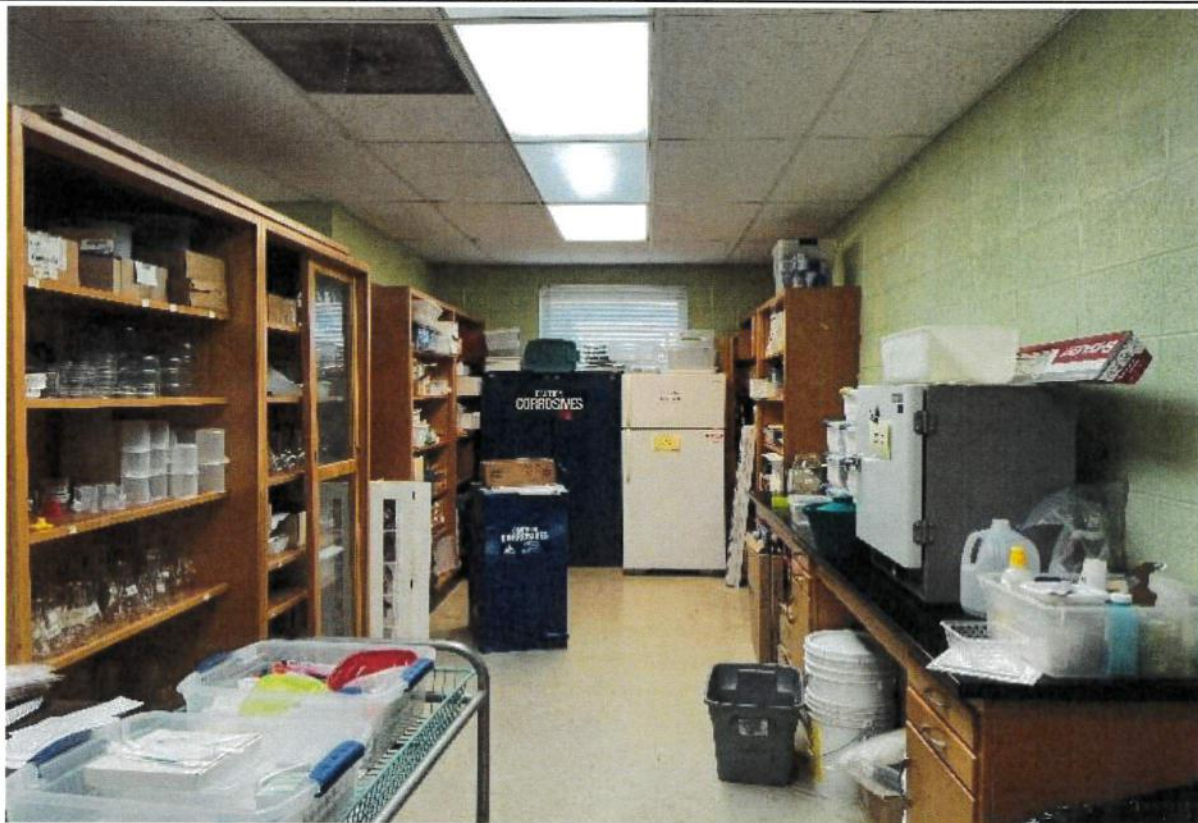
Room Name	General Biology Teaching Lab (Botany Lab)
Room Number	121

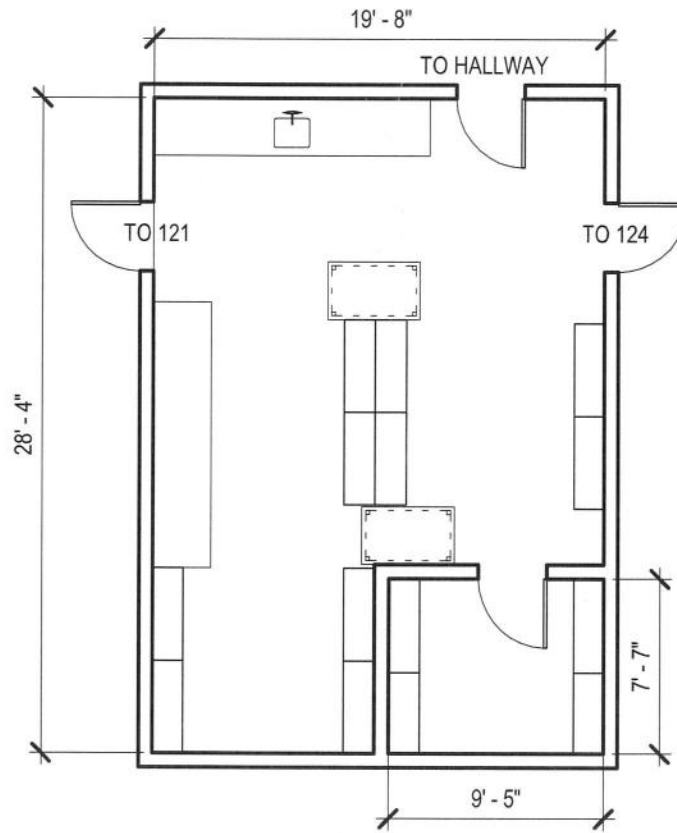




Room Name	Prep Room (Storage)
Room Number	122
Room description	Prep and Storage room
Overall assessment	Generally looks good, there is a table behind the center shelving units, which may limit how accessible the table surface is
Room dimensions	8.5' H, 19.5' W, 20.1' D
Ceiling	ACT, okay
Wall	CMU, okay
Floor	VCT, okay, minor scuff marks
Door size	36 x1; 32 x3
Approximate occupant capacity	4
Fume hood	no
Countertop	Composite with black coating
Casework	wood, okay
Sinks	(1) Double Sink - (36"W, 20"D, 10"H) - sink is double bowl, each bowl ~17" wide
Aisleway average width	36
Safety Shower?	no
Eye Wash?	yes
Chemical Storage Cabinets?	yes, yellow and blue
Fire Extinguisher?	no
Gases?	no
Major equipment	water purifier, glassware washer, refrigerator / freezer
Adequate data and electrical outlets	at perimeter
ADA accommodations?	na

Room Name	Prep Room (Storage)
Room Number	122





EXISTING

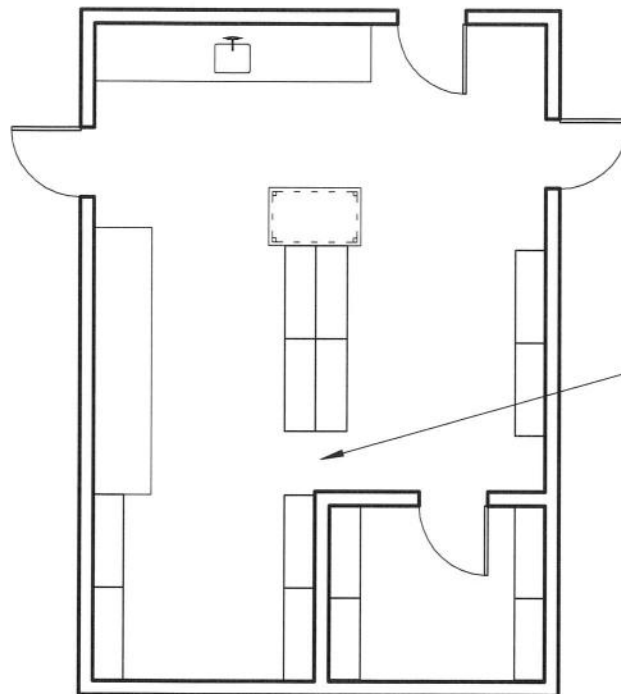
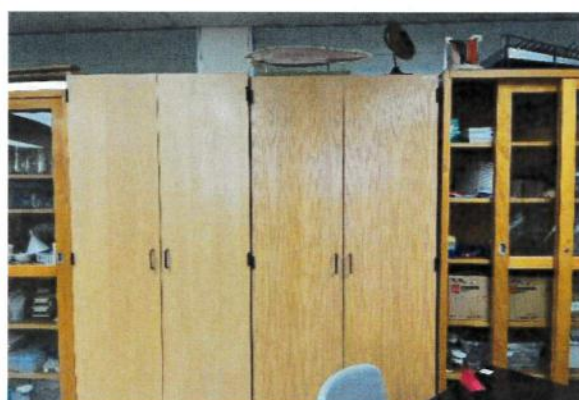


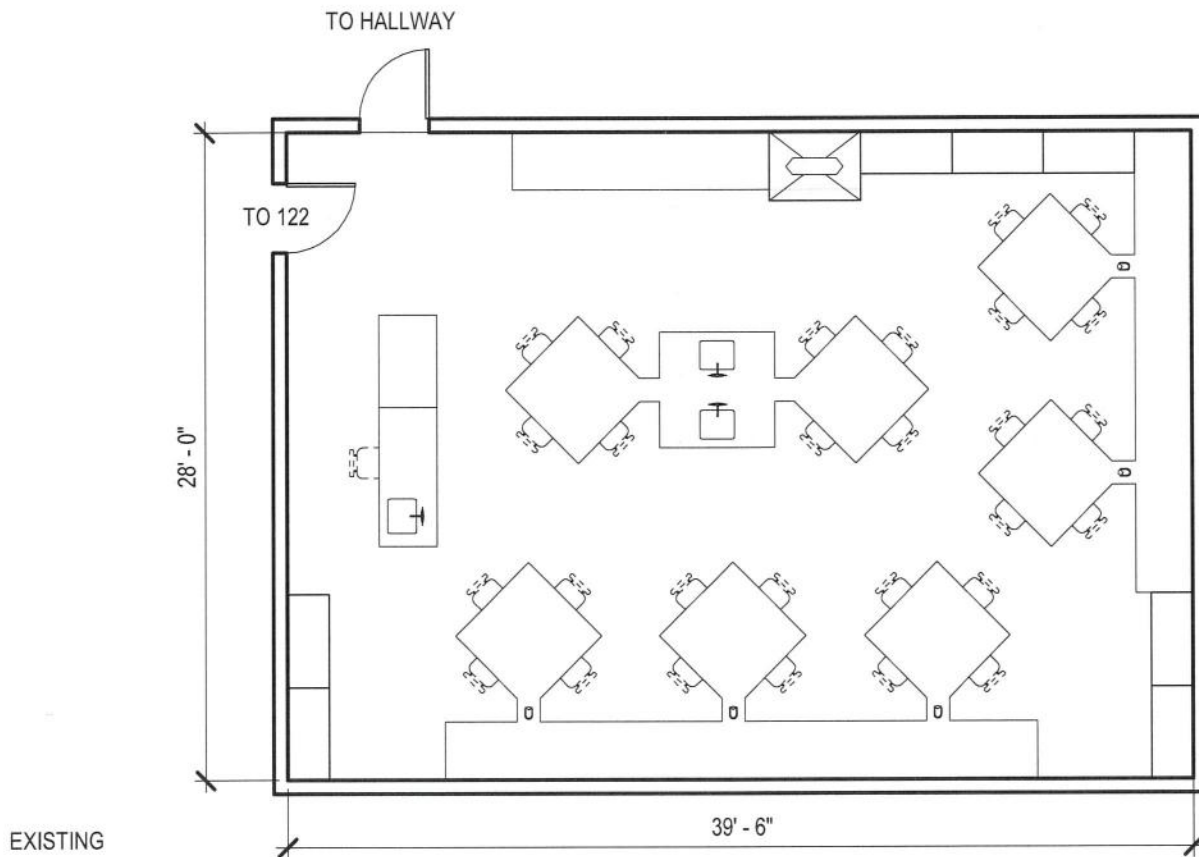
TABLE HERE BLOCKS AISLE,
DETERMINE IF THIS SPACES IS
MORE IMPORTANT AS STORGE
OR A PASSAGEWAY

PROPOSED

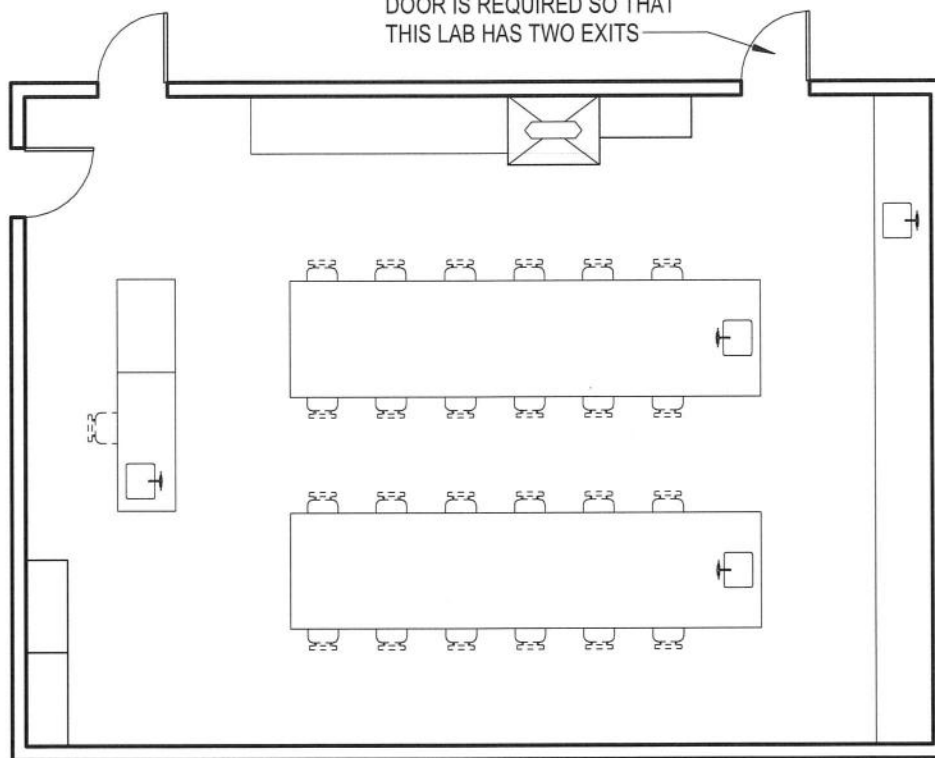
Room Name	Botany / Plant Physiology Lab (Zoology)
Room Number	124
Room description	Teaching lab with diamond shaped student workstations
Overall assessment	Some of the casework is worn, and needs to be replaced
Room dimensions	8.5' H, 28' W, 39.5' D
Ceiling	ACT couple of spots with water damage
Wall	CMU
Floor	VCT, couple of cracks, generally in good shape
Door size	36", 32"
Approximate occupant capacity	28
Fume hood	(1), 4ft, CW, NG
Countertop	Composite with black coating, generally in good shape
Casework	some minor wear, tall cabinets added later
Sinks	(2) - (20"W, 17"D, 10"H); one at the instructor's station (15"W, 15"D, 8"H); 7 cup sinks (6"W, 3"D, 6"H)
Aisleway average width	32 student station corner to corner, 22, 17.5 at tall cabinet
Safety Shower?	no
Eye Wash?	yes
Chemical Storage Cabinets?	no
Fire Extinguisher?	yes, with first aid kit
Gases?	NG at student station
Major equipment	microscopes, environmental chambers
Adequate data and electrical outlets	at student stations, at wall
ADA accommodations?	Does not appear to have an accessible student station

Room Name	Botany / Plant Physiology Lab (Zoology)
Room Number	124





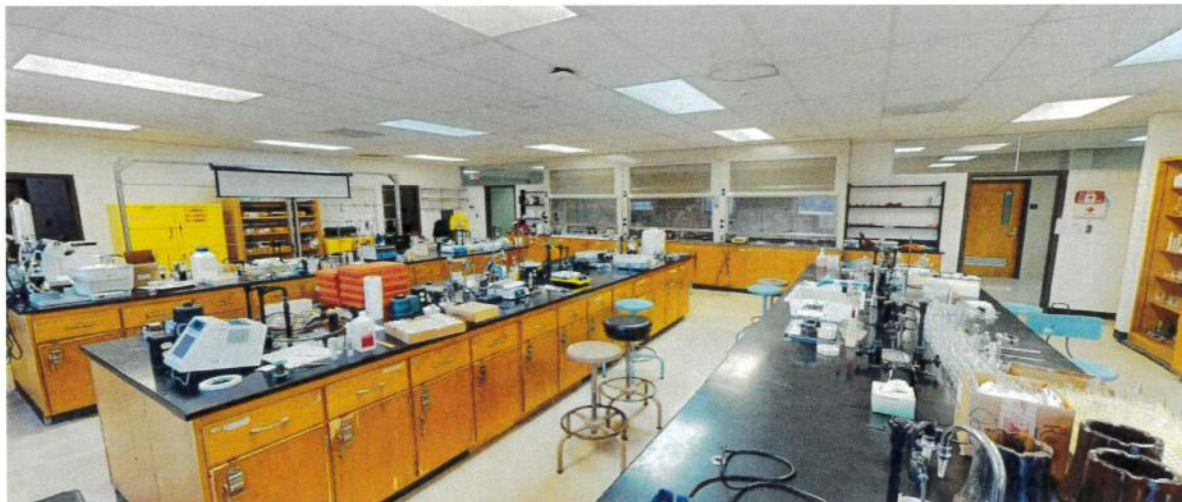
CONSIDER IF AN ADDITIONAL
DOOR IS REQUIRED SO THAT
THIS LAB HAS TWO EXITS

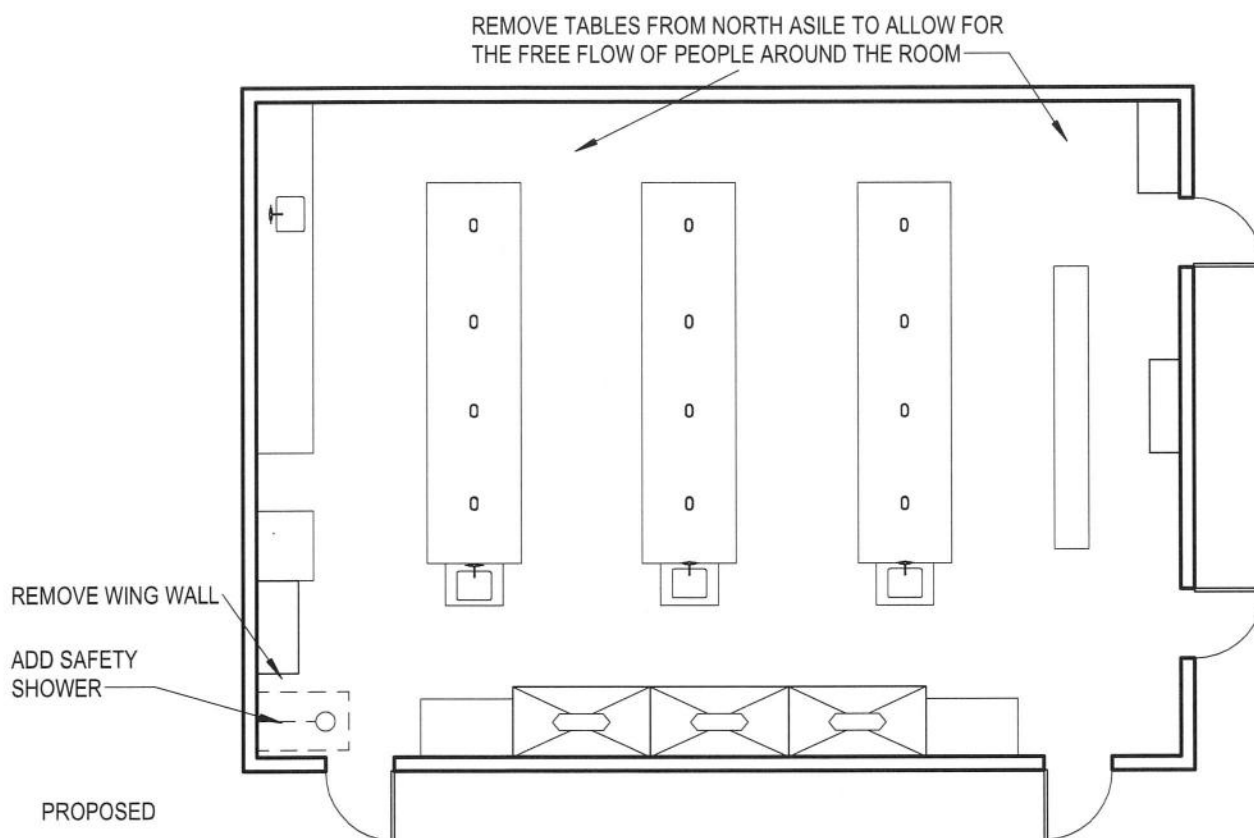
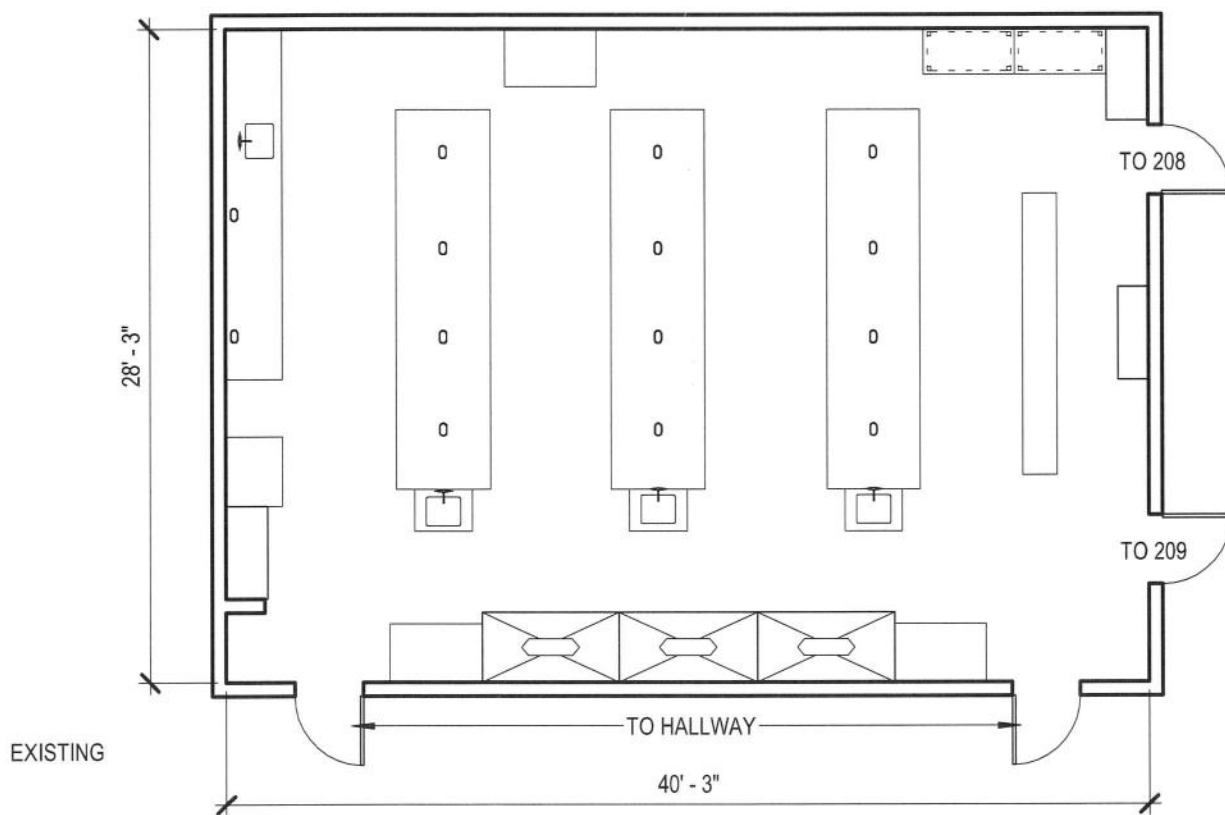


PROPOSED

Room Name	Organic Chemistry Lab
Room Number	210
Room description	Chem Lab - Three fixed islands; three fume hoods
Overall assessment	Two of the FH have failed testing stickers. UC casework is worn, some cabinet doors don't close, applied base is separating from the cabinets
Room dimensions	8.5' H, 39.8' W, 28' D
Ceiling	ACT some water damage to tiles
Wall	CMU okay
Floor	VCT, staining, cracks @ sinks, missing a tile at front
Door size	36" x2; 32"x2
Approximate occupant capacity	24
Fume hood	(3), 6' wide, CW, NG - 2 w/ failed stickers
Countertop	Composite with black coating
Casework	wood, casework worn
Sinks	cup sinks (14), four per island, two on back wall, round sinks, (2), 6" diameter, 5" deep, (3) deep sinks at the ends of the island, (22"W, 14"D, 12"H), (1) rectangular (20"W, 17"D, 10"H)
Aisleway average width	54
Safety Shower?	no
Eye Wash?	yes, 2
Chemical Storage Cabinets?	larger yellow, smaller yellow, smaller blue
Fire Extinguisher?	yes
Gases?	air and natural gas at the student islands
Major equipment	ice machine, rotovap, hot plates,
Adequate data and electrical outlets	electrical pedestals at student islands
ADA accommodations?	Does not appear to have an accessible student station

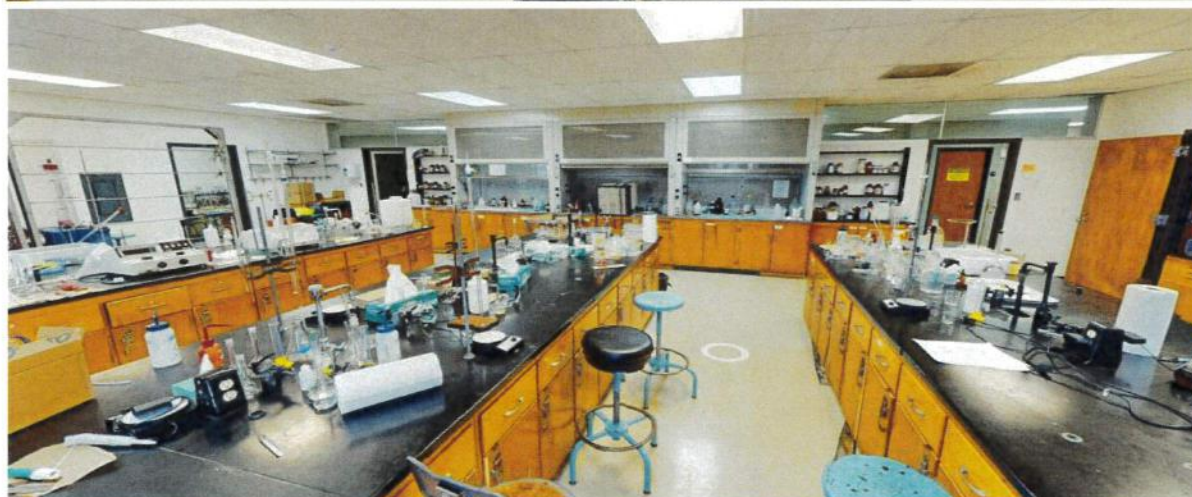
Room Name	Organic Chemistry Lab
Room Number	210

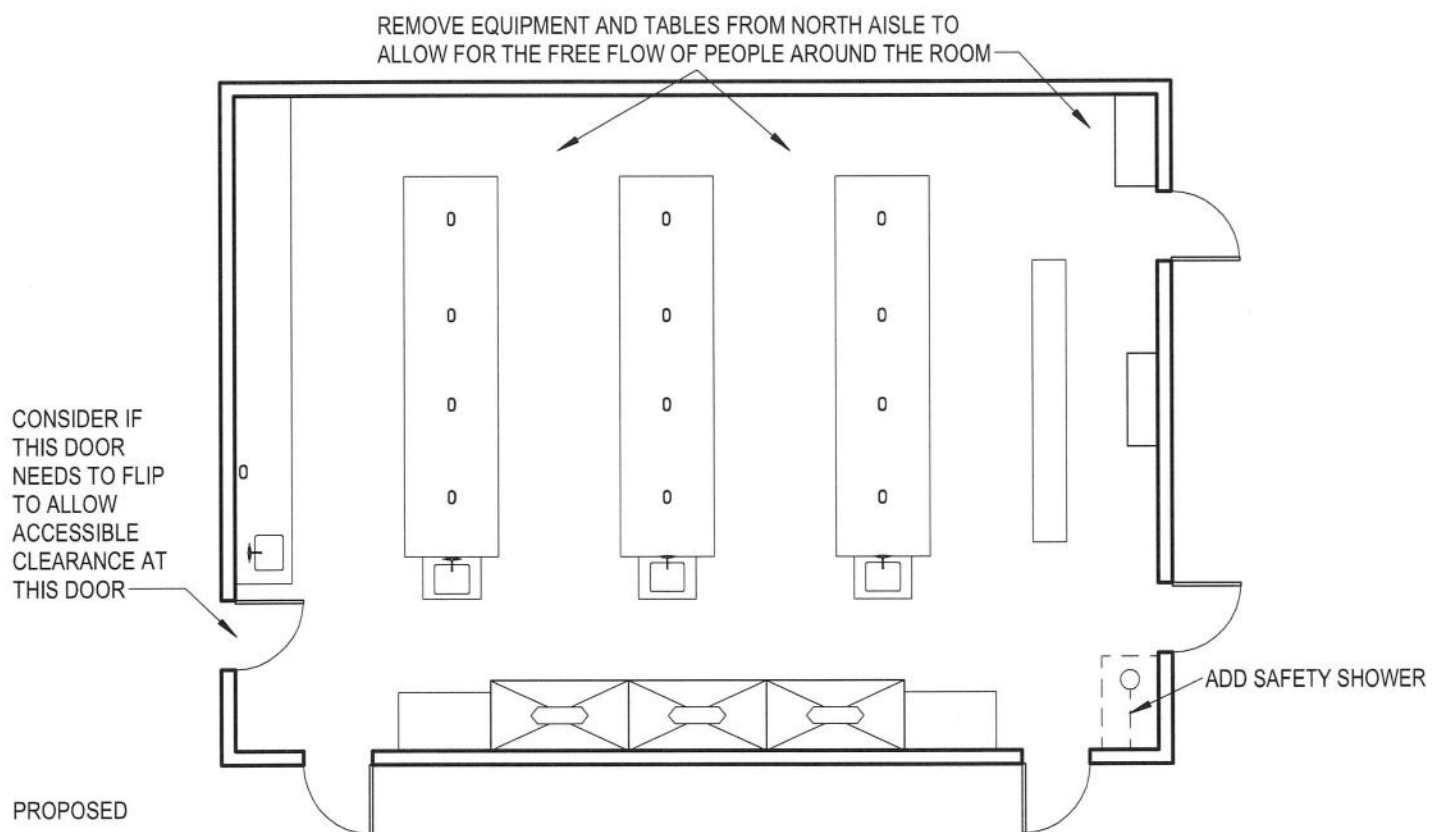
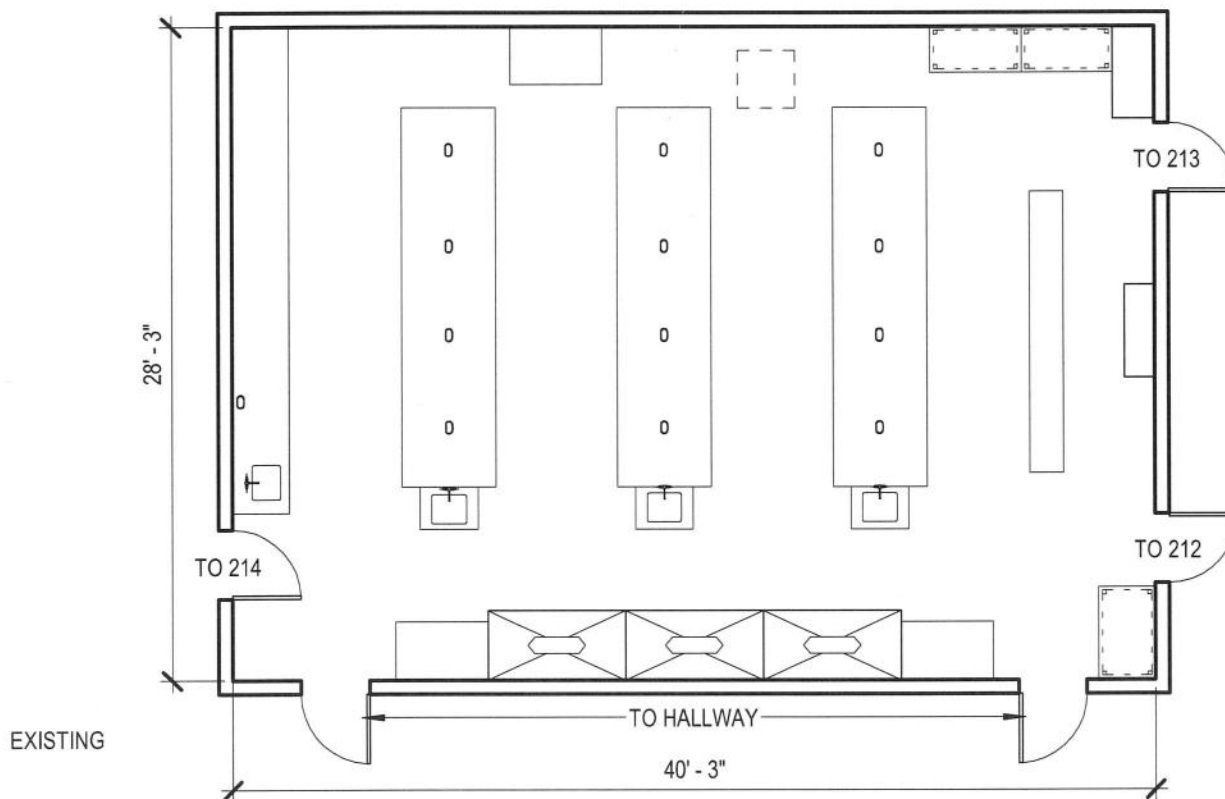




Room Name	Quantitative Chemistry (Analytical Chemistry)
Room Number	211
Room description	Chem Lab - Three fixed islands; three fume hoods
Overall assessment	North aisle is blocked with a equipment, creating a safety hazard, casework is worn and should be replaced
Room dimensions	8.5' H, 27.9' W, 39.5' D
Ceiling	ACT - some staining, missing one tile
Wall	CMU - some cracking on west wall
Floor	VCT - some staining at end sinks
Door size	36"x3, 32"x1
Approximate occupant capacity	24
Fume hood	Three, 6' wide, CW, NG - Steam at center hood
Countertop	Composite with black coating
Casework	wood, somewhat worn
Sinks	Cup sinks: (14), four per island, two on back wall (covered), round sink, (2), 6" diameter, 5" deep, 3 deep sinks at the ends of the island, (22"W, 14"D, 12"H), (1) rectangular (20"W, 17"D, 10"H)
Aisleway average width	54", 40 at walls
Safety Shower?	no
Eye Wash?	yes, 3
Chemical Storage Cabinets?	One tall yellow, one tall blue
Fire Extinguisher?	yes
Gases?	air and natural gas at the student islands; gases at FH
Major equipment	ovens, refrigerator
Adequate data and electrical outlets	electrical pedestals at student islands
ADA accommodations?	Does not appear to have an accessible student station

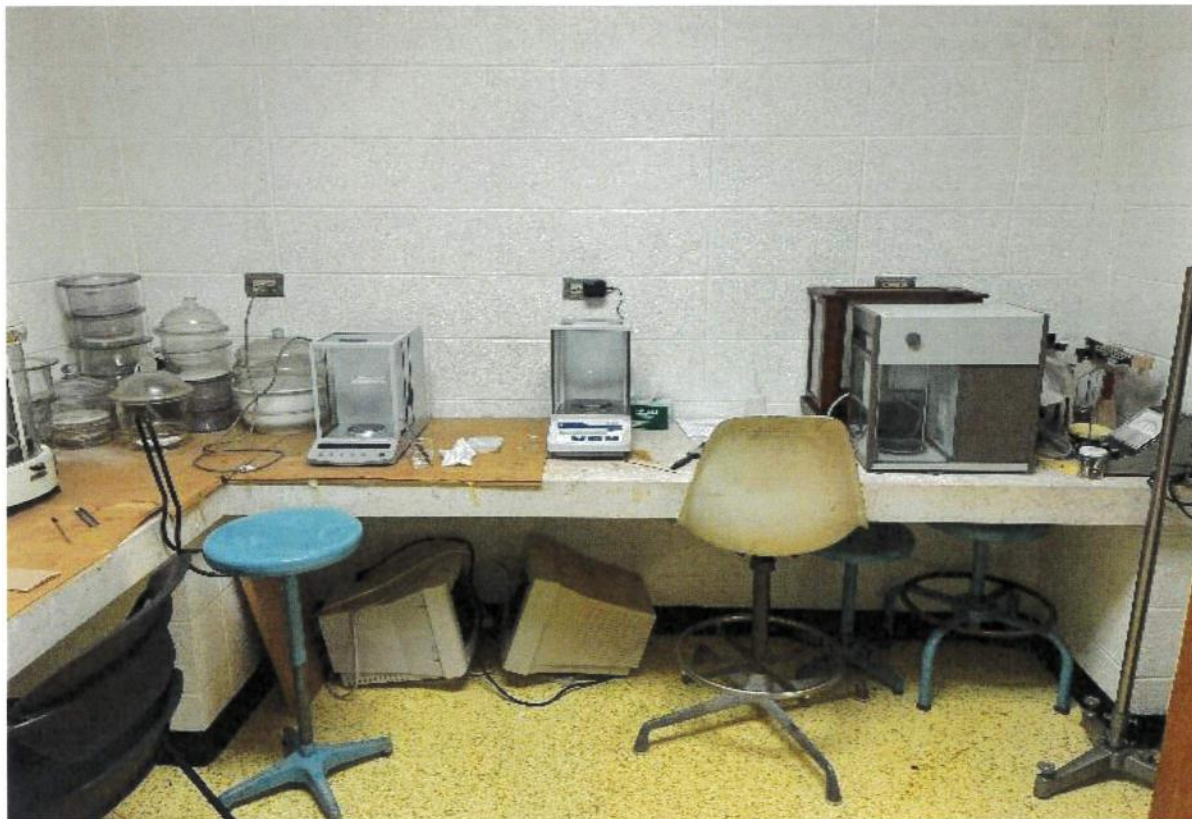
Room Name	Quantitative Chemistry (Analytical Chemistry)
Room Number	211

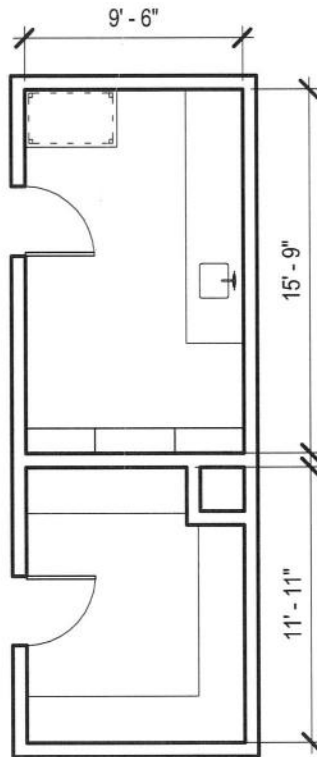




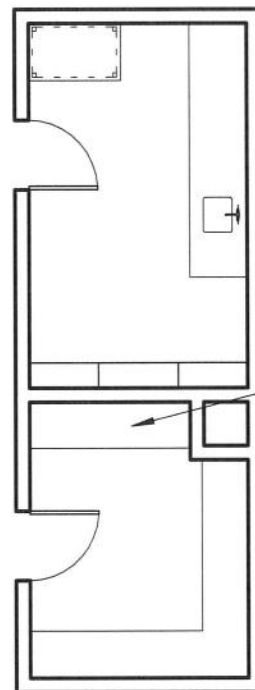
Room Name	Balance Room
Room Number	212
Room description	balance room with fixed marble countertops
Overall assessment	Fixed countertops limit flexibility in the room, but supports the function
Room dimensions	8.5' H, 12.27' W, 9.5' D
Ceiling	ACT - okay
Wall	CMU - okay
Floor	VCT - some staining
Door size	32"
Approximate occupant capacity	~10
Fume hood	no
Countertop	marble countertops, 4" thick, 24" deep
Casework	no
Sinks	no
Aisleway average width	na
Safety Shower?	na
Eye Wash?	na
Chemical Storage Cabinets?	na
Fire Extinguisher?	na
Gases?	na
Major equipment	balances, 11
Adequate data and electrical outlets	at wall
ADA accommodations?	no

Room Name	Balance Room
Room Number	212





EXISTING



PROPOSED

Room Name	Stor
Room Number	213
Room description	Small room with open cabinets
Overall assessment	Casework is worn, metal storage cabinets shows corrosion
Room dimensions	8.5' H, 15.3' W, 9.5' D
Ceiling	ACT okay
Wall	CMU okay
Floor	VCT, some staining at the corners
Door size	36"
Approximate occupant capacity	2
Fume hood	no
Countertop	Composite with black coating
Casework	wood, doors don't close, drawer doesn't close
Sinks	(1) 17"W, 20"D, 10"H
Aisleway average width	na
Safety Shower?	na
Eye Wash?	na
Chemical Storage Cabinets?	na
Fire Extinguisher?	no
Gases?	Air and NG at bench
Major equipment	3 open metal shelves
Adequate data and electrical outlets	at perimeter
ADA accommodations?	no

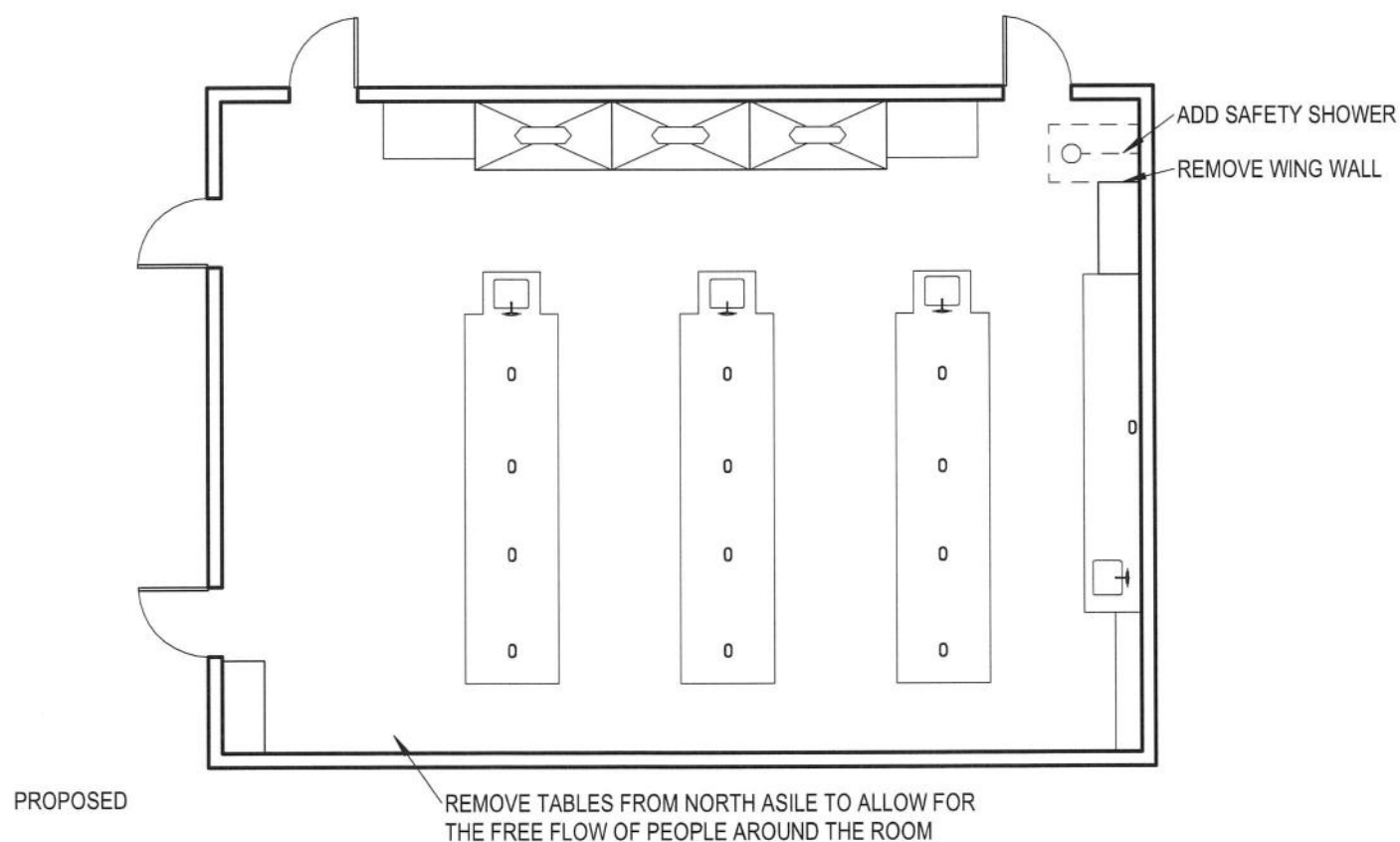
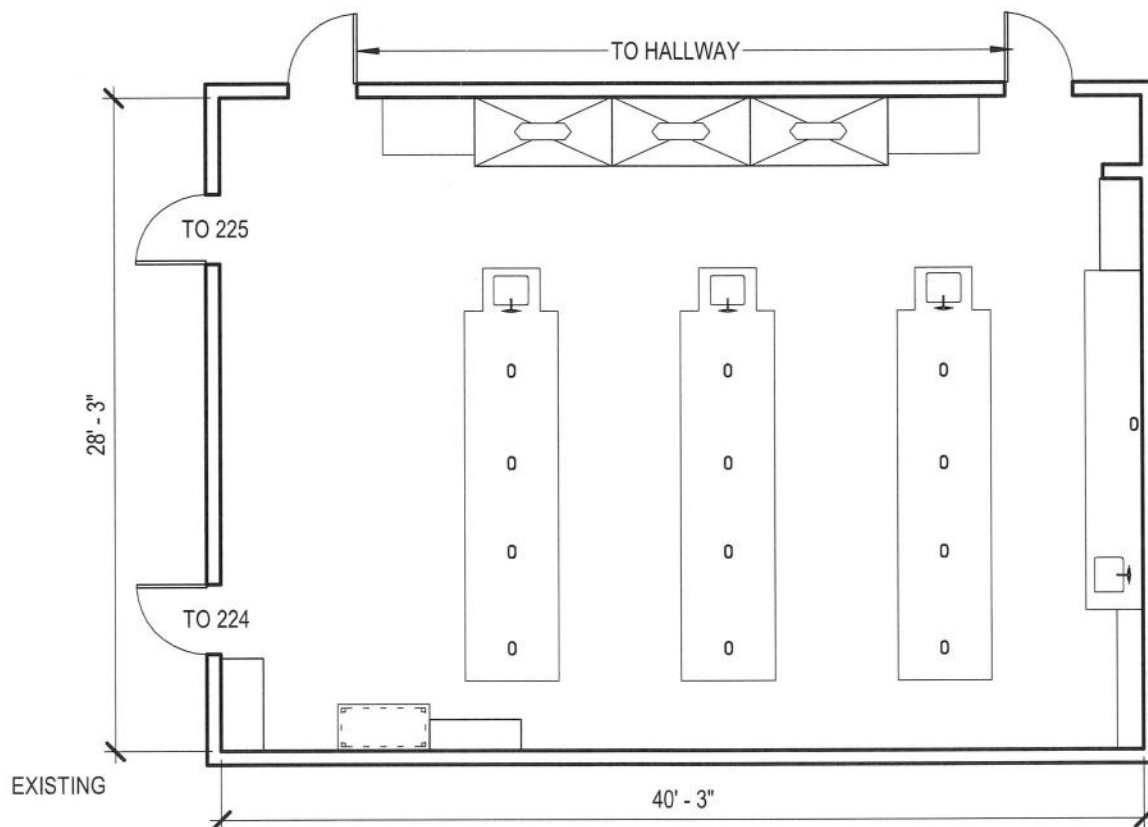
Room Name	Stor
Room Number	213



Room Name	General Chemistry
Room Number	226
Room description	Chem Lab - Three fixed islands; three fume hoods
Overall assessment	One of the fume hoods has a failed testing sticker - casework is generally worn and should be replaced
Room dimensions	8.5' H, 39.6' W, 28' D
Ceiling	ACT okay
Wall	CMU okay
Floor	VCT, some staining
Door size	36'x2; 32"x2
Approximate occupant capacity	24
Fume hood	Three, 6' wide, CW, NG - one FH sticker failed testing
Countertop	Composite with black coating
Casework	wood, well worn
Sinks	cup sinks: (14), four per island, one cup sink on back wall, round sink, 6" diameter, 5" deep, 3 deep sinks at the ends of the island, (22"W, 14"D, 12"H), rectangular (20"W, 17"D, 10"H)
Aisleway average width	49"; 35" at wall
Safety Shower?	no
Eye Wash?	yes, 3
Chemical Storage Cabinets?	no
Fire Extinguisher?	yes, 2
Gases?	Air, NG at student islands and at back wall; gases at FH
Major equipment	oven, balances, waterbath
Adequate data and electrical outlets	elec pedestals at student islands
ADA accommodations?	Does not appear to have an accessible student station

Room Name	General Chemistry
Room Number	226

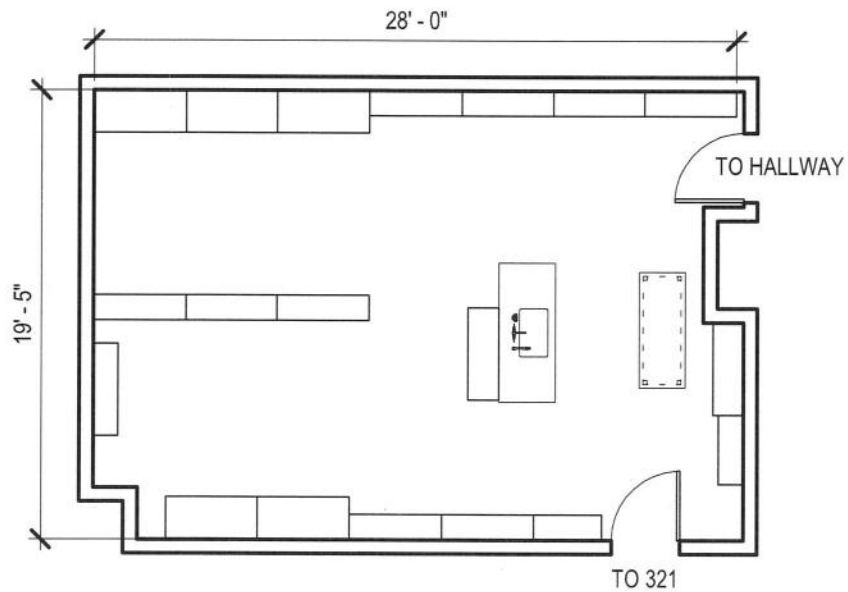




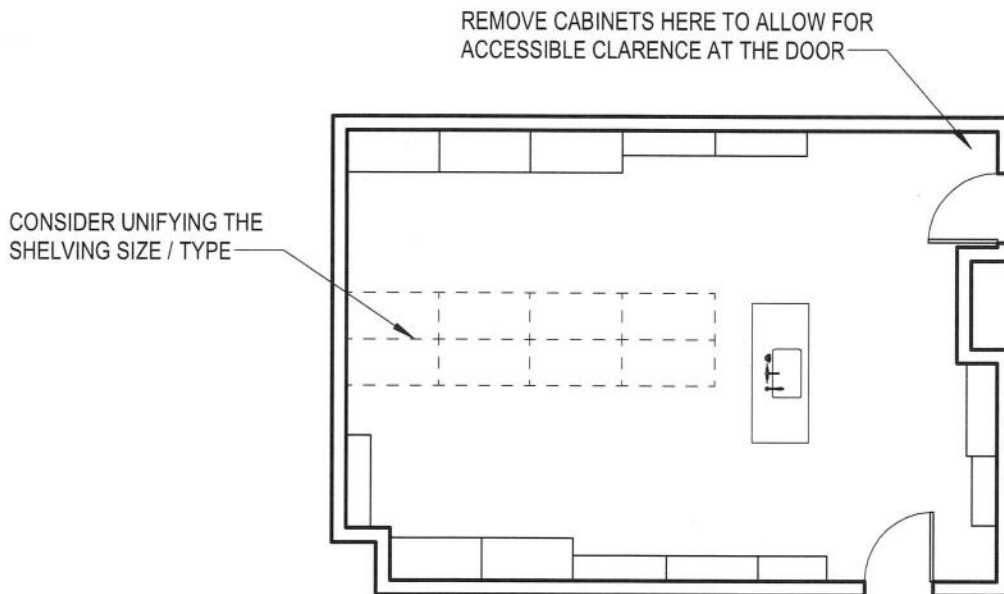
Room Name	Storage 320
Room Number	320
Room description	Storage room, mostly open shelving
Overall assessment	Room is mostly shelving units, with a small sink area and desk
Room dimensions	8.5' H, 19.3' W, 28' D
Ceiling	ACT some water damage
Wall	CMU, good
Floor	Seamless, stained area at sink
Door size	36"x2
Approximate occupant capacity	4
Fume hood	no
Countertop	slate, dark gray, 6' W, 2'D, 4.5'H
Casework	wood
Sinks	(1), (20"W,16"D,10"H)
Aisleway average width	na
Safety Shower?	na
Eye Wash?	no
Chemical Storage Cabinets?	no
Fire Extinguisher?	no
Gases?	no
Major equipment	storage cabinets
Adequate data and electrical outlets	none, could be covered by shelving units
ADA accommodations?	no

Room Name	Storage 320
Room Number	320





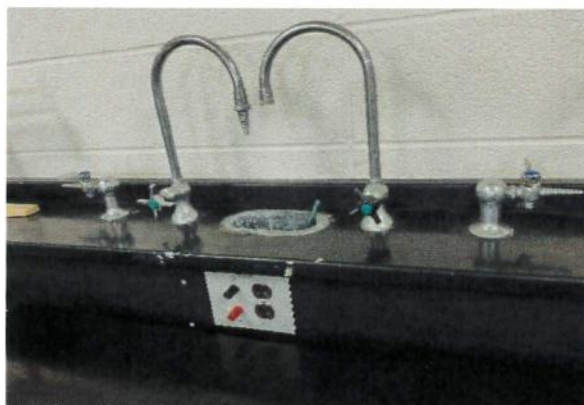
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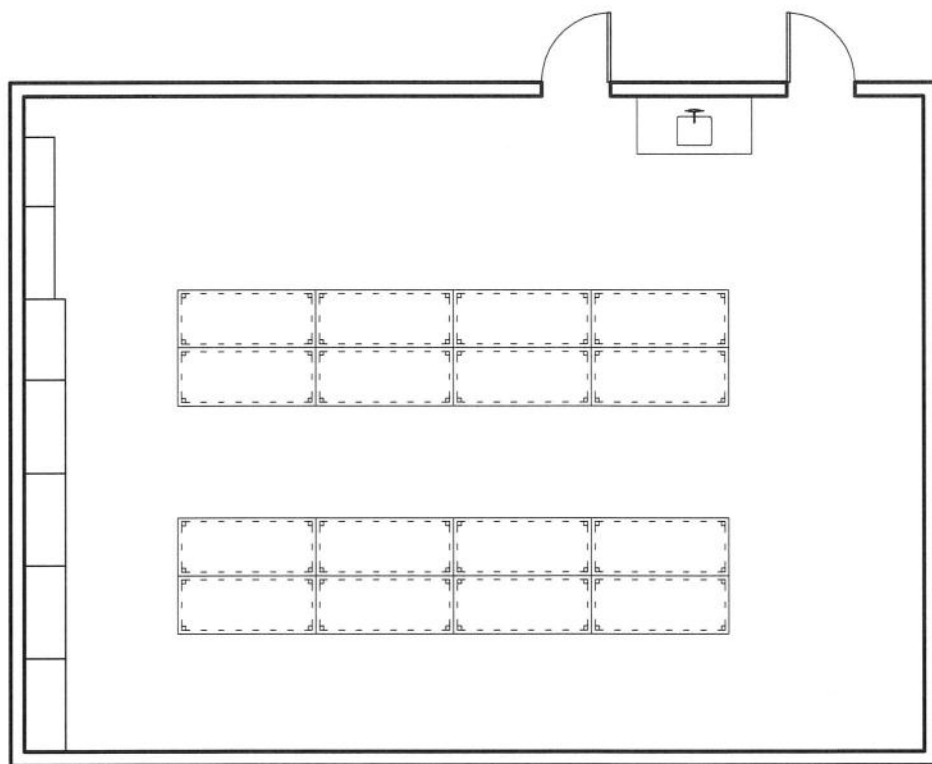
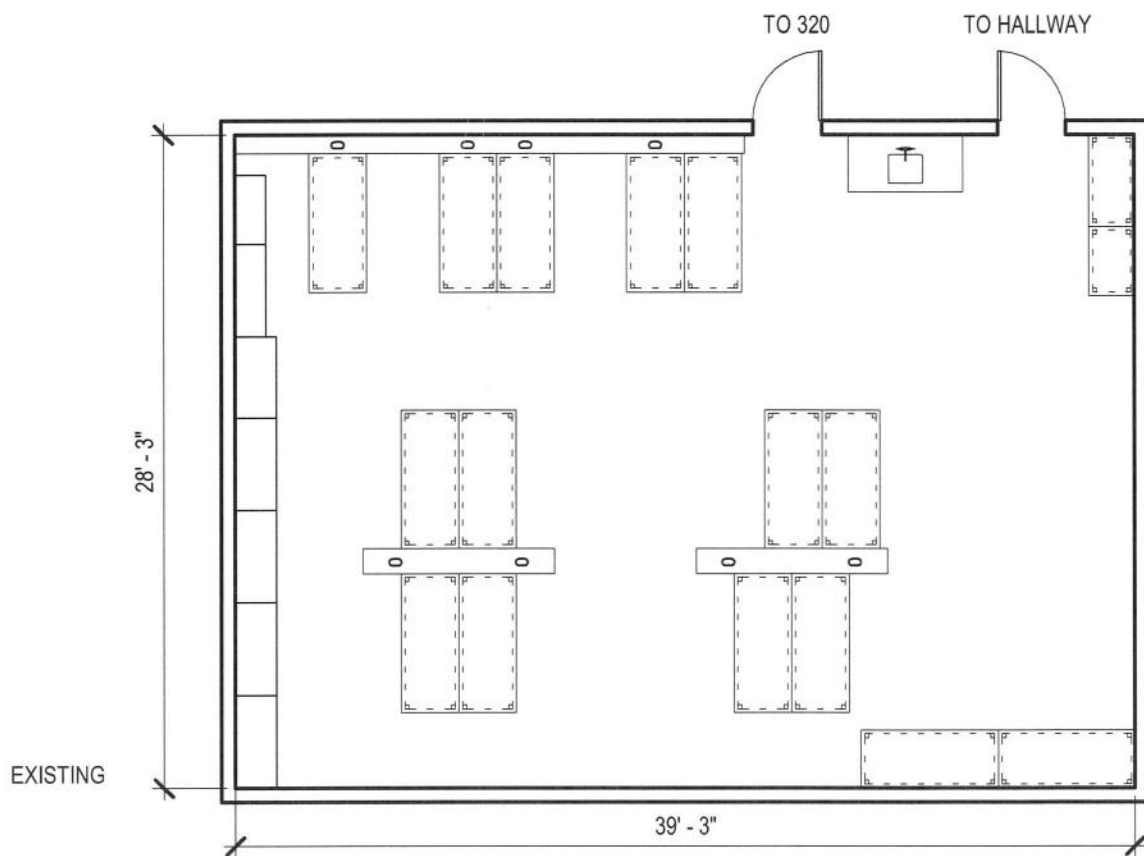


PROPOSED

Room Name	Earth Science & Intro Physics Lab (General Physics)
Room Number	321
Room description	Classroom w/ fixed islands & at wall & moveable tables
Overall assessment	Generally in good shape; are utility islands in use?
Room dimensions	8.5' H, 28.2' W, 38.9' D
Ceiling	ACT, good
Wall	CMU, one crack on the back wall
Floor	Seamless, some cracks
Door size	36"x2
Approximate occupant capacity	28
Fume hood	no
Countertop	Composite with black coating
Casework	(15) wood table frames, sink station, tall cabinets
Sinks	(8) cup sinks (6"W, 3"D, 6"H), (1) rectangular (23"W, 15"D, 9"H)
Aisleway average width	na
Safety Shower?	no
Eye Wash?	yes
Chemical Storage Cabinets?	no
Fire Extinguisher?	yes
Gases?	Natural Gas
Major equipment	Van De Graaff generator, balances
Adequate data and electrical outlets	at fixed service islands, two data jacks
	Built-In positive and negative connections
ADA accommodations?	Does not appear to have an accessible student station

Room Name	Earth Science & Intro Physics Lab (General Physics)
Room Number	321



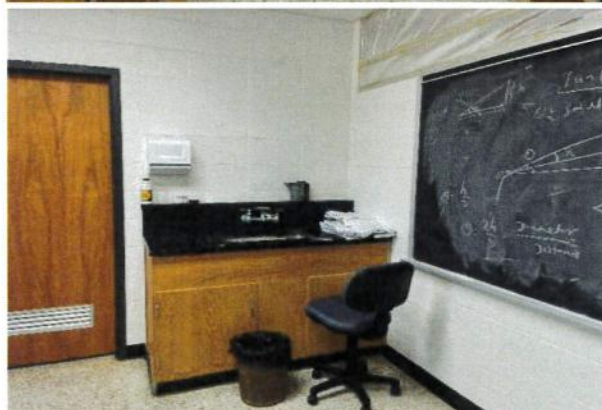


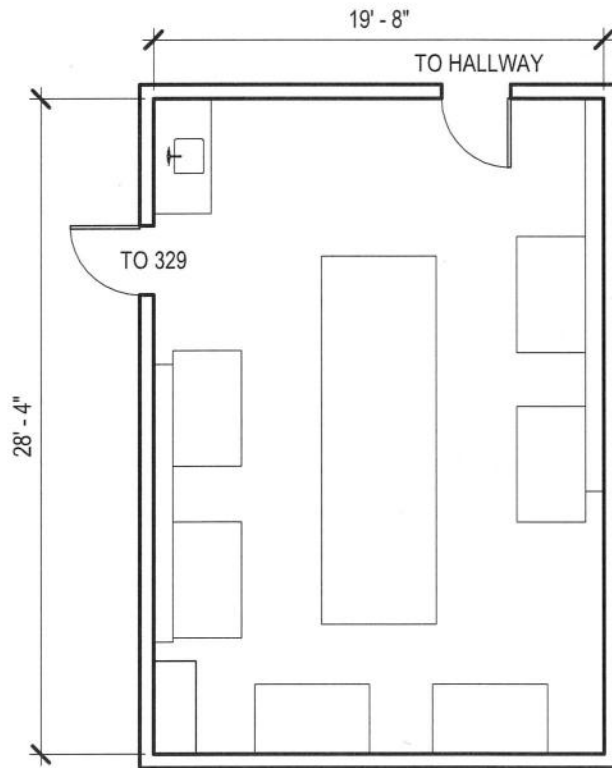
PROPOSED

CONSIDER IF FIXED UTILITY ISLANDS AND CASEWORK ARE USED / NEEDED. CONSIDER IF POWER COULD BE PROVIDED FROM ABOVE WITH CORD REELS WITH MOVABLE TABLES

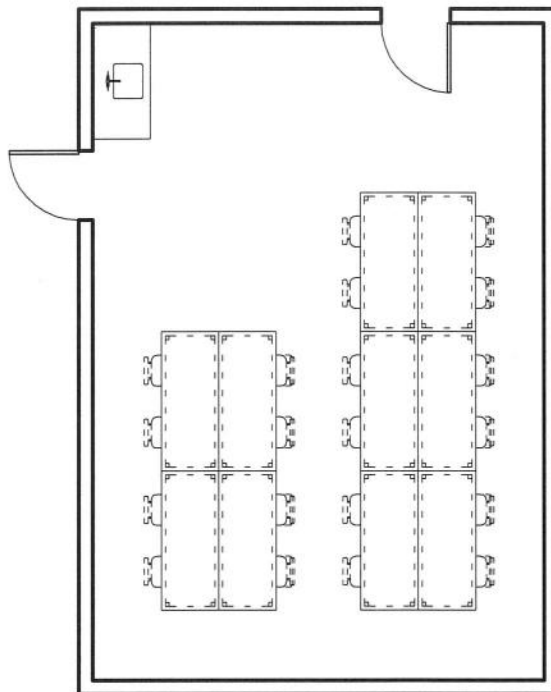
Room Name	Astronomy Lab (Electricity)
Room Number	330
Room description	One center fixed island, peninsula student stations
Overall assessment	Room has narrow aisles; sink looks heavily worn, oil or similar is dripping onto one of the ceiling tiles and should be investigated
Room dimensions	8.5' H, 19.6' W, 28' D
Ceiling	ACT, damage to one ceiling tile
Wall	CMU, crack on south wall
Floor	Seamless, some staining
Door size	36"x2, 32"
Approximate occupant capacity	18
Fume hood	no
Countertop	Composite with black coating
Casework	wood, some damage to UC cabinets
Sinks	(1), 24"W, 15"D, 9"H
Aisleway average width	38", 27.5" between stations, at corners 21.5", 28"
Safety Shower?	no
Eye Wash?	no
Chemical Storage Cabinets?	no
Fire Extinguisher?	no
Gases?	natural gas
Major equipment	clear globes
Adequate data and electrical outlets	16 elec pedestals with positive and negative connections
ADA accommodations?	Does not appear to have an accessible student station

Room Name	Astronomy Lab (Electricity)
Room Number	330





EXISTING



PROPOSED

CONSIDER IF FIXED UTILITY ISLANDS AND CASEWORK ARE USED /
NEEDED. CONSIDER IF POWER COULD BE PROVIDED FROM ABOVE
WITH CORD REELS WITH MOVABLE TABLES

Section 3: Rough Order of Magnitude Cost Estimate

The following sheets provide cost estimates for replacing the existing casework and fume hoods for the labs surveyed. Major components of the laboratories are listed, but the lists are not all-inclusive. Prices are only for the lab fume hoods and casework and do not include:

- Asbestos abatement
- Mechanical, electrical, or plumbing systems
- Flooring replacement
- Ceiling replacement
- Design fees
- Construction fees
- Permitting

Prices are based on information from vendors, and a recent cost estimate for a similar project. Prices are estimates only and not guaranteed. The market is volatile currently, and prices are changing rapidly. Inflation is also increasing costs universally.