

ADDENDUM NO. 1

Project: **LED Conversion – Phase 1**
NC State University
CVM Main Building
1060 William Moore Drive
Raleigh, NC
SCO Project ID: 22-24921-01A
NCSU Project No. 202220014
Building No. 301
SKA Project No. 230114.0

Bid Date: **July 9, 2024 @ 2:00 P.M.**

Addendum Date: **June 17, 2024**

To: **All Plan Holders**

Submitted By: **SKA Consulting Engineers, Inc.**

This Addendum forms a part of the Contract Documents and modifies the original bidding documents dated May 31, 2024, as described below. Contractor(s) shall be responsible for issuing addendum information to subcontractors. Acknowledge receipt of this Addendum in the space provided in the Bid Form.

GENERAL

1. Reminder: Sealed proposals will be received until 2:00pm on July 9, 2024, in Conference Room 301, Administrative Services III Building, 2601 Wolf Village Way, Raleigh, NC 27607.
2. Pre-Bid Meeting Agenda is attached. Corrections are in red.
3. Pre-Bid Meeting Sign-In Sheet is attached.
4. NC State University HUB Document Overview for Formal Projects is attached. This project requires 10% HUB participation. Missing HUB forms will result in bid being disqualified.
5. All bids must be submitted by a prequalified bidder. The prequalified bidders for this project are:
 - a. Voss Electric dba Voss Lighting
 - b. Watson Electrical Construction
 - c. McKenna Construction
 - d. Troy Hutchins Construction LLC
6. All of the attachments are included as part of the Contract Documents.

RFI's

RFI-1 *RFI: Is the pre-bid meeting mandatory?*

SKA Response: The pre-bid meeting is not mandatory.

RFI -2 *RFI: Is floor protection required?*

SKA Response: Floor protection is not required but the contractor is responsible for maintaining the existing conditions of all flooring.

RFI-3 *RFI: Will any storage space be provided on site for construction materials?*

SKA Response: NC State will not be providing any storage for construction materials.

RFI -4 *RFI: Will the selection of any Add Alternates extend the schedule?*

SKA Response: The selection of Add Alternate No. 1 will extend the time of completion by an additional 60 calendar days. The selection of Add Alternate No. 2 will extend the time of completion by an additional 30 days. The selection of Add Alternate No. 3 will extend the time of completion by an additional 30 days.

RFI-5 *RFI: When will construction start?*

SKA Response: The start date for construction is to be determined. We anticipate issuing the notice to proceed by early September.

RFI -6 *RFI: Are there any exam, event, etc. dates that the contractor should be aware of?*

SKA Response: NC State will coordinate any restricted days with the selected bidder as part of developing the construction schedule.

RFI-7 *RFI: Do any areas require a lift?*

SKA Response: The contractor is responsible for determining where a lift is required.

RFI -8 *RFI: Are emergency/afterhours surgeries performed in the Add Alternate No. 1 lab spaces?*

SKA Response: The Add Alternate No. 1 lab spaces is not used afterhours.

RFI -9 *RFI: Is the contractor expected to provide new ceiling tile where new fixtures are smaller than existing fixtures and gaps in ceiling tile are present?*

SKA Response: The contractor is responsible for providing new ceiling tile where required to accommodate new light fixtures. Unit pricing has been added to address this situation.

RFI -10 *RFI: Is it in the contractor's scope to provide a new fixture at the loading dock where the existing fixture is currently removed?*

SKA Response: An additional Type Z fixture has been added to the drawings at the loading dock where the existing light fixture outlet box is located.

PROJECT MANUAL

Form of Proposal has been updated to reflect new unit prices. Please replace the Form of Proposal in the Project Manual.

Spec Section 012100 Allowances was added to reflect new quantity allowances for unit prices.

Spec Section 012200 Unit Prices was added to reflect new unit prices.

Spec section 260519 Low-Voltage Electrical Power Conductors and Cables was revised to remove MC Cable.

DRAWINGS

E1.1 Symbol Legend, Abbreviations, and additional specifications – Revised laydown area indicated on Laydown Area Plan.

E1.2 Lighting Fixture Schedule – Revised additional electrical notes.

E2.3 Partial First Floor Area C Lighting Plan – Added ceiling type to Stair EC123.

E2.5 Partial First Floor Area E Lighting Plan – Added additional Type Z fixture to plans.

ATTACHMENTS:

Pre-Bid Meeting Agenda with corrections

Pre-Bid Meeting Sign-In Sheet

NC State University HUB Document Overview for Formal Projects

Revised Form of Proposal

New Spec Section 012100

New Spec Section 012200

Revised Spec Section 260519

Revised Drawing E1.1

Revised Drawing E1.2

Revised Drawing E2.3

Revised Drawing E2.5

END OF ADDENDUM NO. 1



PRE-BID MEETING AGENDA

NC State LED Conversion – Phase 1

SCO Project ID No.: 22-24921-01A

NCSU Project No.:202220014

Building No.: 301

SKA Project No. 230114

June 12th, 2024 3:00 P.M.

- A. Attendee Sign-in sheet and Meeting Agenda passed around.
- B. Communications during bidding:
 - 1. Contact for all site access, coordination, and financial questions:
Julie Snead
(E-mail jlpeif2@ncsu.edu; Telephone 919-513-7807)
 - 2. Contact for all technical questions:
Kenzie Oakes
Note: All technical questions should be e-mailed.
(E-mail kmoakes@skaeng.com; Telephone 336-855-0993)
- C. Schedule of Dates:
 - 1. **Bid Questions Due: Thursday, June 20th, 2024 @ 5:00 P.M.**
 - 2. **Bid Due Date: Tuesday, July 9th, 2024 @ 2:00 PM.**
 - a. Proposals shall include a line item breakdown for base bid and all alternates.
 - b. Proposals shall be valid up to 30 days after bid opening.
 - c. Owner reserves right to accept or reject any or all bids and to waive any bid irregularities.
 - d. Contractor is responsible for coordinating with AHJ.
 - 3. **Contract award:** A Purchase Order will be awarded to the successful bidder.
 - 4. **Construction schedule:**



- Start: TBD.
- Completion: 182 consecutive calendar days from Notice to Proceed; \$250/day liquidated damages.

D. Project Scope

1. LED fixture replacement in corridors and stairwells.
2. Mockup of type A1 and A2 fixture installation is required.
3. Any fixtures that are not by the listed manufacturers in the lighting fixture schedule will require a mock up before they're approved for use.
4. Areas requiring coordination with NC State prior to performing work have been indicated on the drawings.
5. The lab spaces under Add Alternate No. 1 will require work to be performed after-hours.
6. Add Alternate List is shown on E1.1.

E. Pre-Construction Meeting

F. Construction Procedures:

1. Building will be occupied during construction period.
2. Laydown/staging area is allowed in area shown on E1.1.
3. Parking: all vehicles will require parking permits.
4. Restrooms: the use of university restrooms is prohibited.
5. Any request for afterhours or weekend access should be submitted in writing at least a week before.
6. All construction personnel shall wear an ID tag or some form of clothing that shows their company name.
7. No firearms or alcohol is allowed on site.
8. No smoking is allowed within 25 feet of building.



9. All construction personnel shall be expected to conduct themselves in a professional manner.

Examples:

- a. Shirts and shoes shall be worn at all times.
 - b. Minimal interaction with facility occupants.
 - c. Personnel shall not be present in rooms that they are not currently performing work in.
 - d. Personnel shall not use Owner's furniture, appliances, office equipment, etc.
10. Shutdowns shall be kept to a minimum amount of time and shall be fully coordinated with the Owner at least 7 days in advance – preferably in writing.

G. Safety:

1. The Contractors' company safety manual and the name and contact information of the company safety director shall be submitted to the Owner.
2. Contractor shall educate their personnel and abide by OSHA and all other governing safety codes.
3. Criminal background verification of construction personnel shall be the responsibility of the Contractor.
4. If the Contractor discovers hazardous material in the building, the contractor is to inform the Owner as soon as possible. The Owner shall be responsible for the removal of the hazardous material.
5. Personal protection equipment shall be used by all construction employees, vendors, visitors, etc. while in the construction area.

H. Security:

1. Contractors are to minimize contact with occupants of the building.
2. Contractors are to erect temporary security barriers between area they are working in and the rest of the building, whenever possible.



3. Contractor is to ensure that all exits to the building are secure and accessible for emergency use if required.

I. Building Walk-Thru

J. Final Questions/Wrap Up

**NC State University
HUB Documentation Overview
Formal Projects**

Forms	Submission Requirements	Required Form
<p>Identification of Minority/Women Business Participation Lists the total dollar amount of participation by HUB firms that the contractor <u>will use</u> on the project.</p>	Due with Bid- Do not use TBD, N/A or None; complete with the Total \$ amount as noted at the bottom of the form; Zero is a number	Identification of Minority/Women Business Participation
<p>Listing of Good Faith Efforts Indicates the actions taken to recruit and solicit minority subcontractors, vendors, or suppliers for the project</p>	Due with Bid	Affidavit A
<p>Intent to Perform Contract with Own Workforce Indicates that the bidder does not customarily subcontract elements of this type of project and normally performs all elements of work with his/her own workforce</p>	Due with Bid (use only if self-performing and have no subcontracting opportunities)	Affidavit B
<p>Portion of the Work to be Performed by HUB firms Identifies minority and women owned business participation that is greater than or equal to the 10% goal for construction identified in NC G.S. 143-128.2</p>	Due within 3 business days after notification of being the apparent low bidder.	Affidavit C
<p>Documentation of Good Faith Efforts Indicates the GFE's undertaken by bidders that do not meet the 10% goal for construction identified in NC G.S. 143-128.2</p>	Due within 3 business days after notification of being the apparent low bidder. Best practice is to include all back up documentation with submission.	Affidavit D
<p>UNC GA HUB Certification of Award Indicates that the HUB Coordinator has reviewed all documentation and compliance with MWBE Guidelines is met</p>	Due with Contract when sent to UNC-GA for approval	UNC GA HUB Certification of Award Letter
<p>Request to Change HUB Participation Used to request a change in subcontractor/supplier. Any change requires Good Faith Efforts to maintain the goals of HUB Participation</p>	At any point during the contract period	Request to Change HUB Participation; this can be done through email or on company letterhead; this step should be taken in advance of making any change in sub-contractors or suppliers on the project
<p>Documentation of Contract Payments Contractor shall provide documentation of payments to all subcontractors, suppliers, service providers with each request for payment made</p>	With each request for payment and final payment	Appendix E

FORM OF PROPOSAL

LED Conversion – CVM Main Building Phase 1
NC State University
SCO ID # 22-24921-01A

Contract: _____
Bidder: _____
Date: _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The bidder further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The Bidder proposes and agrees if this proposal is accepted to contract with the

State of North Carolina through NC State University

in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of

LED Conversion – CVM Main Building Phase 1 for NC State University

in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the State of North Carolina, and the

Facilities Division Campus Operations & Maintenance AND
2411 Yarbrough Drive
Raleigh, NC 27695

SKA Consulting Engineers, Inc.
7900 Triad Center Drive, Suite 200
Greensboro, NC 27409-9075

with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents, for the sum of:

SINGLE PRIME CONTRACT:

Base Bid:

_____ Dollars(\$)

General Subcontractor:

_____ Lic _____

Plumbing Subcontractor:

_____ Lic _____

Mechanical Subcontractor:

_____ Lic _____

Electrical Subcontractor:

_____ Lic _____

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsive or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

ALTERNATES:

Should any of the alternates as described in the contract documents be accepted, the amount written below shall be the amount to be "added to" or "deducted from" the base bid. (Strike out "Add" or "Deduct" as appropriate.)

No. 1	<u>Replacing Second Floor Area B Labs and other rooms</u>	ADD (\$) _____
No. 2	<u>Replacing Exterior lighting</u>	ADD (\$) _____
No. 3	<u>Replacing exit signs and exit emergency combination fixtures</u>	ADD (\$) _____
No. 4	_____	ADD (\$) _____
No. 5	_____	ADD (\$) _____
No. 6	_____	ADD (\$) _____
No. 7	_____	ADD (\$) _____

UNIT PRICES

Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the base bid quantity of the work all in accordance with the contract documents.

ELECTRICAL CONTRACT:

No. 1 Provide a new ceiling tile to accommodate new fixture. Per tile Unit Price (\$) _____

No. 2 Provide new ceiling grid to accommodate new fixture. Per linear foot Unit Price (\$) _____

The bidder further proposes and agrees hereby to commence work under this contract on a date to be specified in a written order of the designer and shall fully complete all work thereunder within the time specified in the Supplementary General Conditions Article 23. Applicable liquidated damages amount is also stated in the Supplementary General Conditions Article 23.

MINORITY BUSINESS PARTICIPATION REQUIREMENTS

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A**) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B**) to that effect in lieu of Affidavit (**A**) required above. The MB Participation Form must still be submitted even if there is zero participation.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

* **OR** *

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must always submit **with their bid** the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter none or zero on the form. Affidavit A **or** Affidavit B, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

Proposal Signature Page

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of _____

(Name of firm or corporation making bid)

WITNESS:

(Proprietorship or Partnership)

By: _____
Signature

Name: _____
Print or type

Title _____
(Owner/Partner/Pres./V.Pres)

Address _____

ATTEST:

By: _____

Title: _____
(Corp. Sec. or Asst. Sec. only)

License No. _____

Federal I.D. No. _____

Email Address: _____

(CORPORATE SEAL)

Addendum received and used in computing bid:

Addendum No. 1 _____ Addendum No. 3 _____ Addendum No. 5 _____ Addendum No. 6 _____

Addendum No. 2 _____ Addendum No. 4 _____ Addendum No. 6 _____ Addendum No. 7 _____

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Unit-cost allowances.
 - 2. Quantity allowances.
- C. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

1.3 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 UNIT-COST ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials under allowance and shall include taxes, freight, and delivery to Project site.
- B. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the allowance.
- C. Unused Materials: Retain and prepare unused materials purchased under an allowance for storage by Owner.

1.6 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials under allowance and shall include taxes, freight, and delivery to Project site.
- B. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the allowance.
- C. Unused Materials: Retain and prepare unused materials purchased under an allowance for storage by Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Quantity Allowance: Under the Base Bid, include an allowance for 500 ceiling tile per Unit Price No. 1.
 - 1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."
- B. Allowance No. 2: Quantity Allowance: Under Base Bid, include an allowance for 500 linear foot of ceiling grid per Unit Price No. 2.
 - 1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: Provide a new ceiling tile to accommodate new fixture.

1. Description: The work of this unit price shall include providing a new ceiling tile and cutting to accommodate new fixture. Existing ceiling tiles damaged during removal and reinstallation as part of construction are not applicable to unit pricing.
2. Unit of Measurement: per ceiling tile.
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."

B. Unit Price No. 2: Provide new ceiling grid to accommodate new fixture.

1. Description: The work of this unit price shall include providing new ceiling grid and tying into existing grid structure to accommodate new fixture.
2. Unit of Measurement: per linear foot
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."

END OF SECTION 012200

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Copper building wire rated 600 V or less.
 - 2. Metal-clad cable, Type MC, rated 600 V or less.
 - 3. Connectors, splices, and terminations rated 600 V and less.

1.3 DEFINITIONS

- A. VFC: Variable-frequency controller.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Standards:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 - 2. RoHS compliant.

3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- C. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.
- D. Conductor Insulation:
 1. Type THHN and Type THWN-2: Comply with UL 83.
 2. Type XHHW-2: Comply with UL 44.
- E. Shield:
 1. Type TC-ER: Cable designed for use with VFCs, with oversized crosslinked polyethylene insulation, spiral-wrapped foil plus 85 percent coverage braided shields and insulated full-size ground wire, and sunlight- and oil-resistant outer PVC jacket.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. 3M Electrical Products.
 2. AFC Cable Systems; a part of Atkore International.
 3. Gardner Bender.
 4. Hubbell Power Systems, Inc.
 5. Ideal Industries, Inc.
 6. O-Z/Gedney; a brand of Emerson Industrial Automation.
 7. TE Connectivity Ltd.
 8. Thomas & Betts Corporation; A Member of the ABB Group.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper. Conductors shall be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- C. VFC Output Circuits Cable: Extra-flexible stranded for all sizes.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type THHN/THWN-2, single conductors in raceway Type XHHW-2, single conductors in raceway.
- B. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway Type XHHW-2, single conductors in raceway.
- C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway Type XHHW-2, single conductors in raceway.
- E. Exposed Branch Circuits, Including in Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- F. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway.
- G. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway Type XHHW-2, single conductors in raceway.
- H. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
- I. VFC Output Circuits: Type TC-ER cable with braided shield.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least **6 inches (150 mm)** of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.7 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 078413 "Penetration Firestopping."

3.8 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 - 2. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - 3) Thermographic survey.

- c. Inspect compression-applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
3. Initial Infrared Scanning: After Substantial Completion, but before Final Acceptance, perform an infrared scan of each splice in conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner. Correct deficiencies determined during the scan.
 - a. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - b. Record of Infrared Scanning: Prepare a certified report that identifies switches checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.
 4. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each switch 11 months after date of Substantial Completion.
- B. Cables will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports to record the following:
1. Procedures used.
 2. Results that comply with requirements.
 3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 260519

ELECTRICAL SYMBOL LEGEND
Dwg # 230114-E1001A.DWG

GENERAL	
	BRANCH CIRCUIT HOME RUN - LETTERS AND NUMERALS INDICATE PANEL DESIGNATION AND CIRCUIT NUMBER. ARROWS INDICATE NUMBER OF CIRCUITS UNLESS OTHERWISE NOTED. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INCLUDED IN ALL RUNS OF CONDUIT. PROVIDE SEPARATE NEUTRALS.
	BRANCH CIRCUIT CONDUIT INSTALLED CONCEALED IN WALLS, AND ABOVE CEILINGS, UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS.
	BRANCH CIRCUIT CONDUIT INSTALLED EXPOSED IN SURFACE MOUNTED RACEWAY OR CONDUIT.
	CONDUIT AND WIRE TURNING TOWARD OBSERVER.
	CONDUIT AND WIRE TURNING AWAY FROM OBSERVER.
LIGHTING	
	RECESSED, SURFACE, OR WALL MOUNTED LIGHTING FIXTURE. LETTERS/NUMERALS INDICATE TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR REQUIREMENTS.
	CEILING MOUNTED EXIT SIGN - SHADED AREA INDICATES FACE(S) - ARROWS AS DIRECTED ON PLANS.
	WALL MOUNTED EXIT SIGN - SHADED AREA INDICATES FACE(S) - ARROWS AS DIRECTED ON PLANS.
	SINGLE POLE TOGGLE SWITCH 120/277V, 20A, HEAVY DUTY SPECIFICATION GRADE, FEDERAL SPECIFICATION LISTED. SUBSCRIPTS "3" INDICATES THREE WAY SWITCH, "4" FOUR WAY SWITCH, "K" KEY OPERATED SWITCH, AND "3K" THREE WAY KEY OPERATED SWITCH. MOUNT IN A SINGLE GANG OR MULTI GANG GALVANIZED BOX 46" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS.
	DIMMING SWITCH, RECESSED MOUNTED IN JUNCTION BOX. VERIFY SWITCHING LOAD TYPE WITH LIGHTING FIXTURE SCHEDULE. FOR 0-10V DIMMING, PROVIDE LUTRON: DVSTV, OR EQUAL. PROVIDE LUTRON: DVTYV OR EQUAL WHEN POWER PACK IS PROVIDED. SUBSCRIPT "3" INDICATES THREE WAY SWITCH.
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH. PROVIDE REQUIRED POWER PACK WITH ADDITIONAL DRY CONTACTS FOR FUTURE BUILDING AUTOMATION SYSTEM (BAS) INTEGRATION. ELECTRICAL CONTRACTOR SHALL PROVIDE TYPED LABEL WITH ARROW INDICATING POWER PACK LOCATION ABOVE ACCESSIBLE CEILING. LABEL SHALL BE ADHERED TO METALLIC CEILING GRID. PROVIDE LUTRON: LOS-CDT-2000-WH, OR EQUAL.
	TIMER. EXISTING TIMER SYSTEM TO REMAIN UNLESS OTHERWISE NOTED.

CEILING TYPE LEGEND	
DESIGNATION	CEILING TYPE
K	KEYSLOT GRID
G	GRID
E	EXPOSED STRUCTURE
H	HARD CEILING
MS	METAL SLOT
GL	GLASS
U	HARD CEILING WITH UNISTRUT
UG	GRID CEILING WITH UNISTRUT

NOTES:
INSTALL CONDUITS CONCEALED IN FINISHED SPACES AND EXPOSED IN UNFINISHED SPACES.

230114-E1008.DWG

ADD ALTERNATE LIST		
No.	BASE BID DESCRIPTION	ADD ALTERNATE DESCRIPTION
1	EXISTING LIGHTING AND CONTROLS IN SECOND FLOOR AREA B LABS AND OTHER ROOMS TO REMAIN.	NEW LIGHTING AND CONTROLS IN SECOND FLOOR AREA B LABS AND OTHER ROOMS AS SHOWN.
2	EXISTING EXTERIOR LIGHTING TO REMAIN.	NEW EXTERIOR LIGHTING AS SHOWN.
3	EXISTING EXIT SIGNS AND EXIT EMERGENCY COMBINATION FIXTURES TO REMAIN.	REPLACE EXISTING EXIT SIGNS AND EXIT EMERGENCY COMBINATION FIXTURES AS SHOWN.

230114-E1008.DWG

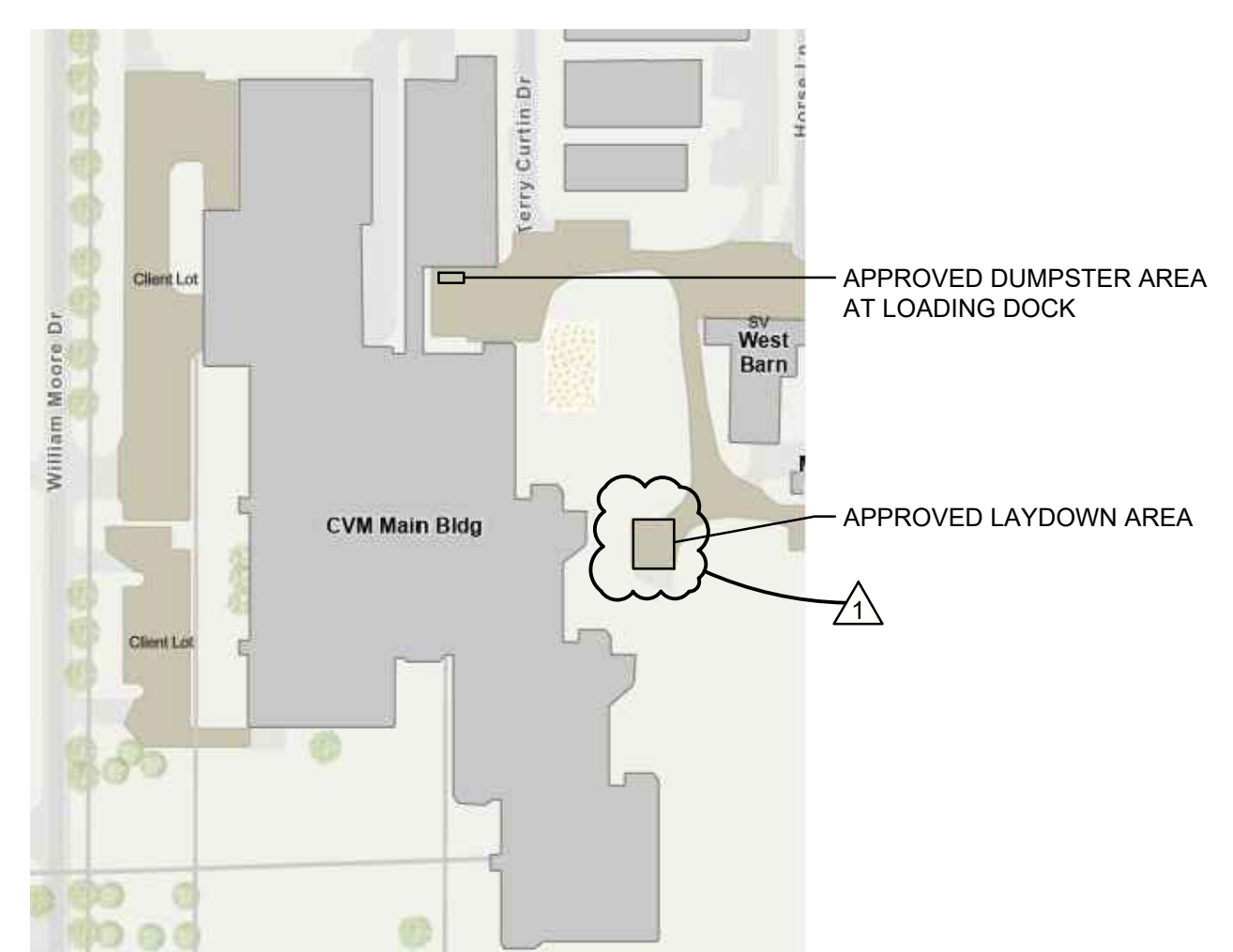
ELECTRICAL ABBREVIATIONS
Dwg # 230114-E1002.DWG

A OR AMP	AMPERES	IG	ISOLATED GROUND
AFF	ABOVE FINISHED FLOOR	IMC	INTERMEDIATE METALLIC CONDUIT
AFG	ABOVE FINISHED GRADE	IN	INCHES
AIC	AMPERE INTERRUPTING CAPACITY	JB	JUNCTION BOX
ALT	ALTERNATE	KCMIL	THOUSANDS OF CIRCULAR MILLS
ATS	AUTOMATIC TRANSFER SWITCH	KVA	KILO VOLT AMPERES
AWG	AMERICAN WIRE GAUGE	KW	KILOWATT
BKR	BREAKER	LTG	LIGHTS
CBF	BELOW FINISHED GRADE	MCB	MAIN CIRCUIT BREAKER
C	CONDUIT	MCC	MOTOR CONTROL CENTER
CB	CIRCUIT BREAKER	MLO	MAIN LUG ONLY
CLG	CEILING	MTD	MOUNTED
CT	CABLE TRAY	MTG	MOUNTING
CU	COPPER	N	NEUTRAL
DIA	DIAMETER	NC	NORMALLY CLOSED
DN	DOWN	NEC	NATIONAL ELECTRIC CODE
DWG(S)	DRAWING(S)	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
EC	EMPTY CONDUIT OR ELECTRICAL CONTRACTOR	NF	NON-FUSED
EF	EXHAUST FAN	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
EG	EQUIPMENT GROUND	NIC	NOT IN CONTRACT
ELEC	ELECTRICAL	NO	NORMALLY OPEN OR NUMBER
EMT	ELECTRIC METALLIC TUBING	Ø	PHASE
EQUIP	EQUIPMENT	PNL	PANEL
ER	EXISTING TO BE RELOCATED	PVC	POLYVINYL CHLORIDE
EWC	ELECTRIC WATER COOLER	REC	RECEPTACLE
EWH	ELECTRIC WATER HEATER	SCHED	SCHEDULE
EX	EXISTING TO REMAIN	SN	SOLID NEUTRAL
FACP	FIRE ALARM CONTROL PANEL	SPECS	SPECIFICATIONS
FL	FLOOR	SWBD	SWITCHBOARD
FLA	FULL LOAD AMPS	SWGR	SWITCHGEAR
FT	FOOT/FEET	TEL	TELEPHONE
FVNR	FULL VOLTAGE NON-REVERSING	TB	TELEPHONE TERMINAL BACKBOARD
FWE	FURNISHED WITH EQUIPMENT	TYP	TYPICAL
GA	GAUGE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
GALV	GALVANIZED	UG	UNDERGROUND
GC	GENERAL CONTRACTOR	UL	UNDERWRITES LABORATORIES
GEC	GROUNDING ELECTRODE CONDUCTOR	UNO	UNLESS NOTED OTHERWISE
GFI	GROUND FAULT INTERRUPTER	V	VOLTS
GND	GROUND	W	WIRE
GRS	GALVANIZED RIGID STEEL CONDUIT	WP	WEATHERPROOF
HOA	HAND-OFF-AUTOMATIC	XFMR	TRANSFORMER
HID	HIGH INTENSITY DISCHARGE		
HP	HORSEPOWER		
HT	HEIGHT		
HTR	HEATER		

ADDITIONAL SPECIFICATIONS
Dwg # 230114-E1010.DWG

- SECTION 01 73 00
EXECUTION
- IN-PLACE MATERIALS: USE MATERIALS IDENTICAL TO IN-PLACE MATERIALS. FOR EXPOSED SURFACES, USE MATERIALS THAT VISUALLY MATCH IN-PLACE ADJACENT SURFACES TO THE FULLEST EXTENT POSSIBLE.
 - IF IDENTICAL MATERIALS ARE UNAVAILABLE OR CANNOT BE USED, USE MATERIALS THAT, WHEN INSTALLED, WILL MATCH THE VISUAL, TEXTURAL AND FUNCTIONAL PERFORMANCE OF IN-PLACE MATERIALS.
 - EXAMINE SURFACES TO BE CUT AND PATCHED AND CONDITIONS UNDER WHICH CUTTING AND PATCHING ARE TO BE PERFORMED.
 - COMPATIBILITY: BEFORE PATCHING, VERIFY COMPATIBILITY WITH AND SUITABILITY OF SUBSTRATES, INCLUDING COMPATIBILITY WITH IN-PLACE FINISHES OR PRIMERS.
 - PROCEED WITH INSTALLATION ONLY AFTER UNSAFE OR UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
 - TEMPORARY SUPPORT: PROVIDE TEMPORARY SUPPORT OF WORK TO BE CUT.
 - PROTECTION: PROTECT IN-PLACE CONSTRUCTION DURING CUTTING AND PATCHING TO PREVENT DAMAGE. PROVIDE PROTECTION FROM ADVERSE WEATHER CONDITIONS FOR PORTIONS OF PROJECT THAT MIGHT BE EXPOSED DURING CUTTING AND PATCHING OPERATIONS. PROTECT EXISTING SURFACES-TO-REMAIN FROM DAMAGE CAUSED BY WORK AND EQUIPMENT. PROTECT FLOORING FROM DAMAGE FROM LIFTS BY PLACING PLYWOOD OF ADEQUATE THICKNESS TO PREVENT SCRATCHING, MARRING AND INDENTATIONS.
 - ADJOINING AREAS: AVOID INTERFERENCE WITH USE OF ADJOINING AREAS OR INTERRUPTION OF FREE PASSAGE TO ADJOINING AREAS.
 - GENERAL: EMPLOY SKILLED WORKERS TO PERFORM CUTTING AND PATCHING. PROCEED WITH CUTTING AND PATCHING AT THE EARLIEST FEASIBLE TIME, AND COMPLETE WITHOUT DELAY.
 - CUT IN-PLACE CONSTRUCTION TO PROVIDE FOR INSTALLATION OF OTHER COMPONENTS OR PERFORMANCE OF OTHER CONSTRUCTION, AND SUBSEQUENTLY PATCH AS REQUIRED TO RESTORE SURFACES TO THEIR ORIGINAL CONDITION.
 - CUTTING: CUT IN-PLACE CONSTRUCTION BY SAWING, DRILLING, BREAKING, CHIPPING, GRINDING, AND SIMILAR OPERATIONS, INCLUDING EXCAVATION, USING METHODS LEAST LIKELY TO DAMAGE ELEMENTS RETAINED OR ADJOINING CONSTRUCTION. IF POSSIBLE, REVIEW PROPOSED PROCEDURES WITH ORIGINAL INSTALLER. COMPLY WITH ORIGINAL INSTALLER'S WRITTEN RECOMMENDATIONS.
 - FLAME CUTTING: DO NOT USE CUTTING TORCHES.
 - IN GENERAL, USE HAND OR SMALL POWER TOOLS DESIGNED FOR SAWING AND GRINDING, NOT HAMMERS AND CHOPPING. CUT HOLES AND SLOTS AS SMALL AS POSSIBLE, NEATLY TO SIZE REQUIRED, AND WITH MINIMUM DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS WHEN NOT IN USE.
 - FINISHED SURFACES: CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES.
 - PATCHING: PATCH CONSTRUCTION BY FILLING, REPAIRING, REFINISHING, CLOSING UP, AND SIMILAR OPERATIONS FOLLOWING PERFORMANCE OF OTHER WORK. PATCH WITH DURABLE SEAMS THAT ARE AS INVISIBLE AS POSSIBLE. PROVIDE MATERIALS AND COMPLY WITH INSTALLATION REQUIREMENTS SPECIFIED IN OTHER SECTIONS.
 - EXPOSED FINISHES: RESTORE EXPOSED FINISHES OF PATCHED AREAS AND EXTEND FINISH RESTORATION INTO RETAINED ADJOINING CONSTRUCTION IN A MANNER THAT WILL ELIMINATE EVIDENCE OF PATCHING AND REFINISHING.
 - WHERE PATCHING OCCURS IN A PAINTED SURFACE, APPLY PRIMER AND INTERMEDIATE PAINT COATS OVER THE PATCH AND APPLY FINAL PAINT COAT OVER ENTIRE UNBROKEN SURFACE CONTAINING THE PATCH. PROVIDE ADDITIONAL COATS UNTIL PATCH BLENDS WITH ADJACENT SURFACES. REPAINT ENTIRE CEILING AFTER.
 - CEILINGS: PATCH, REPAIR, OR REHANG IN-PLACE CEILINGS AS NECESSARY TO PROVIDE AN EVEN-PLANE SURFACE OF UNIFORM APPEARANCE.
 - CLEANING: CLEAN AREAS AND SPACES WHERE CUTTING AND PATCHING ARE PERFORMED. COMPLETELY REMOVE PAINT, MORTAR, OILS, PUTTY, AND SIMILAR MATERIALS.
- SECTION 02 41 19
SELECTIVE DEMOLITION
- CONTRACTOR IS RESPONSIBLE FOR DEMOLITION NECESSARY TO COMPLETE WORK AS INDICATED ON THE CONTRACT DOCUMENTS.
 - OWNER WILL OCCUPY PORTIONS OF BUILDING IMMEDIATELY ADJACENT TO SELECTIVE DEMOLITION AREA. CONDUCT SELECTIVE DEMOLITION SO OWNER'S OPERATIONS WILL NOT BE DISRUPTED.
 - COORDINATE WITH OWNER A DETAILED SCHEDULE OF DEMOLITION. INCLUDE THE FOLLOWING:
 - STARTING AND ENDING DATES OF EACH ACTIVITY. ENSURE OWNER'S ON-SITE OPERATIONS ARE UNINTERRUPTED.
 - INTERRUPTION OF UTILITY SERVICES.
 - COORDINATION FOR SHUTOFF, CAPPING AND CONTINUATION OF UTILITY SERVICES.
 - COORDINATION OF OWNER'S CONTINUING OCCUPANCY OF PORTIONS OF THE EXISTING BUILDING AND OF OWNER'S PARTIAL OCCUPANCY OF COMPLETED WORK.
 - NOTIFY ENGINEER OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH SELECTIVE DEMOLITION.
 - IF SUSPECTED HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; IMMEDIATELY NOTIFY ENGINEER AND OWNER. HAZARDOUS MATERIALS WILL BE REMOVED BY OWNER UNDER A SEPARATE CONTRACT.
 - MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS.
 - REMOVE, REPLACE, PATCH AND REPAIR MATERIALS AND SURFACES CUT OR DAMAGED DURING SELECTIVE DEMOLITION BY METHODS AND WITH MATERIALS SO AS NOT TO VOID EXISTING WARRANTIES.
 - REGULATORY REQUIREMENTS: COMPLY WITH THE STATE CONSTRUCTION OFFICE REGULATIONS BEFORE BEGINNING SELECTIVE DEMOLITION. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
 - PROVIDE AND MAINTAIN SHORING, BRACING, AND STRUCTURAL SUPPORTS AS REQUIRED TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF CONSTRUCTION AND FINISHES TO REMAIN, AND TO PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED.
 - CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE SELECTIVE DEMOLITION OPERATIONS BEGAN.

- SECTION 07 92 00
JOINT SEALANTS
- ACRYLIC LATEX SEALANT: ASTM C-834. SEALANT SHALL BE PAINTABLE.
 - PRIMER: WHERE REQUIRED, SHALL BE USED AS RECOMMENDED, IN WRITING BY THE MANUFACTURER. THE PRIMER SHALL HAVE BEEN TESTED FOR NON-STAINING CHARACTERISTICS AND DURABILITY ON SAMPLES OF ACTUAL SURFACES TO BE SEALED.
 - BACK-UP MATERIALS AND PREFORMED JOINT FILLERS SHALL BE NON-STAINING, COMPATIBLE WITH SEALANT AND PRIMER, AND OF A RESILIENT NATURE, SUCH AS CLOSED CELL POLYETHYLENE ROD, CLOSED CELL URETHANE OR NEOPRENE ROD, OR ELASTOMERIC TUBING OR ROD (NEOPRENE, BUTYL, OR EPDM). MATERIALS IMPREGNATED WITH OIL BITUMEN OR SIMILAR MATERIALS SHALL NOT BE USED. SIZE AND SHAPE SHALL BE AS RECOMMENDED BY SEALANT MANUFACTURER IN WRITING. SEALANT SHALL NOT ADHERE TO BACK-UP MATERIAL.
 - FOLLOW SEALANT MANUFACTURER'S INSTRUCTIONS REGARDING MIXING (IF REQUIRED), SURFACE PREPARATION, PRIMING, APPLICATION LIFE, AND APPLICATION PROCEDURE.
 - PROVIDE CAULKING AT THE PERIMETER OF INTERIOR ACCESS DOOR AND WINDOW FRAMES: ACRYLIC LATEX SEALANT.
 - PROVIDE NON-SAG SEALANT COMPLYING WITH REQUIREMENTS OF FEDERAL SPECIFICATIONS TTS-1543 OR FS TT-S-280 TYPE "II", CLASS "A". PROVIDE ACOUSTICAL SEALANT WHICH SHALL BE NON-HARDENING, NON-DRYING SYNTHETIC RUBBER SEALING COMPOUND WITH MINIMUM 90% SOLIDS. USE AT ALL INTERIOR JOINTS AT INNER SECTIONS BETWEEN PLANES.
 - SURFACES SHALL BE ADEQUATELY CLEANED AND PREPARED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS PRIOR TO INSTALLATION.
- SECTION 09 29 00
GYPSUM BOARD
- GYPSUM BOARD (TYPICAL): 5/8" THICK, REGULAR, TAPERED EDGE. PROVIDE TYPE "X" FIRE RETARDANT GYPSUM WALL BOARD PANELS 5/8" THICK, TESTED AND QUALIFIED FOR 1-HOUR RATING.
 - PROVIDE GYPSUM WALL PANELS MANUFACTURED IN ACCORDANCE WITH REQUIREMENTS OF ASTM 336.
 - WALL TEXTURE: MATCH EXISTING ADJACENT TEXTURE.
- SECTION 09 91 24
INTERIOR PAINTING
(MPI STANDARDS)
- SUBMITTALS:
 - PRODUCT DATA, ORGANIZED BY MPI SYSTEM. INDICATE LOCATION OF EACH PROPOSED SYSTEM.
 - SAMPLE: 6 INCH BY 6 INCH DRAWDOWN FOR ENGINEER REVIEW.
 - PROVIDE ALL PAINTING AND FINISHING REQUIRED FOR UNFINISHED SURFACES.
 - PAINT SHALL BE ON THE MASTER PAINTERS INSTITUTE (MPI) APPROVED PRODUCTS LIST FOR THE USE INDICATED.
 - BEFORE PAINTING, REMOVE HARDWARE, ACCESSORIES, PLATES, LIGHTING FIXTURES AND SIMILAR ITEMS OR PROVIDE AMPLE PROTECTION OF SUCH ITEMS. ON COMPLETION OF EACH SPACE, REPLACE ABOVE ITEMS, PROTECT ADJACENT SURFACES AS REQUIRED OR DIRECTED.
 - PERFORM ALL WORK USING ONLY EXPERIENCED, COMPETENT PAINTERS. MATERIALS, PREPARATION AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE ARCHITECTURAL PAINTING SPECIFICATION MANUAL BY THE MASTER PAINTERS INSTITUTE (MPI) ROLL OR BRUSH INTERIOR WORK. APPLY ALL PAINT MATERIALS UNDER ADEQUATE ILLUMINATION.
 - PAINT ONLY WHEN SURFACES ARE CLEAN, DRY, SMOOTH AND ADEQUATELY PROTECTED FROM DAMPNESS. EACH COAT OF PAINT SHALL BE WELL APPLIED, WORKED OUT EVENLY AND ALLOWED TO DRY AT LEAST 24 HOURS BEFORE THE SUBSEQUENT COAT IS APPLIED. FINISHED WORK SHALL BE UNIFORM, OF APPROVED COLOR, SMOOTH AND FREE FROM RUNS, SAGS, CLOGGING OR EXCESSIVE FLOODING. MAKE EDGES OF PAINT ADJOINING OTHER MATERIALS OR COLORS SHARP AND CLEAN WITHOUT OVERLAPPING. WHERE HIGH GLOSS ENAMEL IS USED, LIGHTLY SAND UNDERCOATS TO OBTAIN A SMOOTH FINISH COAT.
 - APPLY 2 COAT APPLICATIONS OVER PROPER PRIMER, FILLER OR PRE-TREATMENT FOR EACH TYPE OF SURFACE. CEILINGS GLOSS LEVEL SHALL MATCH EXISTING.
 - GYPSUM BOARD: LATEX SYSTEM, MPI SYSTEM INT 9.2A.



GENERAL NOTE:
ALL HARDSCAPES MUST BE PROTECTED BY 3/4" THICK 4' x 8' PLYWOOD. THE CONTRACTOR MUST PROVIDE ADEQUATE PROTECTION OF EXISTING CONCRETE, ASPHALT, AND BRICK. ALL DAMAGE MUST BE REPAIRED BY THE CONTRACTOR TO ENSURE EQUAL MATERIAL SUBSTITUTION. NO STORING OF MATERIAL OR EQUIPMENT ON LANDSCAPED AREAS, INCLUDING MULCH BEDS AND LAWN. ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE INCLUDING ASPHALT, ROCKS, ET CETERA UPON COMPLETION. PLEASE NOTE, ALL VEHICULAR TRAFFIC ON HARDSCAPES IS BY PERMIT ONLY AND NOT ALLOWED ON SOFTSCAPES. ALL DAMAGES MADE TO HARDSCAPES/SOFTSCAPES MUST BE REPAIRED BY THE CONTRACTOR.

1 LAYDOWN AREA PLAN
E.1.1 NO SCALE
Dwg # 230114-E5200.DWG



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File Name: 230114-E1010A
Project: 6/17/2024 1:29 PM



Revision	Date	Mark	ADDENDUM NO. 1
	06/17/24	△	

Revision	Date	Mark	ADDENDUM NO. 1
	06/17/24	△	

LED Conversion - Phase 1 (SCO ID: 22-24921-01A)
FOR
NC STATE UNIVERSITY - CVM MAIN BUILDING
1060 WILLIAM MOORE DRIVE
RALEIGH, NC
**SYMBOL LEGEND, ABBREVIATIONS,
AND ADDITIONAL SPECIFICATIONS**

Designed By: KMO
Drawn By: MRS
Checked By: RGL
Date: 05/31/2024

E1.1

BID SET

LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	CATALOG NO.	VOLTS	LAMPS		ENERGY INPUT WATTS	MOUNTING	DESCRIPTION
				TYPE	DESCRIPTION			
A1*	GREEN CREATIVE	8.5T8/2F/840/UEB (UNIVERSAL ENDED BYPASS 2" T8 LAMP WITH MEDIUM BI-PIN BASE)	120/277	LED	1,100 LUMENS 4000°K, 80+ CRI	9	EXISTING FIXTURE HOUSING	2" LED T8 (TYPE B) REPLACEMENT LAMP WITH INTEGRAL LED DRIVER AND L70 RATED LIFETIME OF 60,000 HRS. EC SHALL REMOVE EXISTING FLUOR. BALLAST AND REWIRE LAMP HOLDERS FOR SINGLE OR DOUBLE-ENDED INSTALLATION.
	EQUIVALENTS BY	GE, TCP						
A2*	GREEN CREATIVE	14T8/4F/840/UEB (UNIVERSAL ENDED BYPASS 4" T8 LAMP WITH MEDIUM BI-PIN BASE)	120/277	LED	2,200 LUMENS 4000°K, 80+ CRI	14	EXISTING FIXTURE HOUSING	4" LED T8 (TYPE B) REPLACEMENT LAMP WITH INTEGRAL LED DRIVER AND L70 RATED LIFETIME OF 60,000 HRS. EC SHALL REMOVE EXISTING FLUOR. BALLAST AND REWIRE LAMP HOLDERS FOR SINGLE OR DOUBLE-ENDED INSTALLATION.
	EQUIVALENTS BY	GE, TCP						
B3	CURRENT	6L-W-D-12-06-SOF-C1-40K9-DO50-NDM-1C-UNV	120/277	LED	500 LUMENS / FOOT 4000°K, 90 CRI	47	SURFACE OF WALL	6" x 12" LINEAR LED WALL MOUNTED FIXTURE WITH DIFFUSE FLUSH LENS AND WHITE HOUSING. PROVIDE WITH NON-DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
D1	CURRENT	4L-LG-D-8-08-BAT-C1-40K9-D075-NDM-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	50	RECESSED IN 15/16" T-GRID CEILING	4" x 8" LINEAR LED RECESSED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH NON-DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
D2	CURRENT	4L-DW-D-8-08-BAT-C1-40K9-D075-NDM-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	50	RECESSED IN 4" METAL SLOTTED CEILING	4" x 8" LINEAR LED RECESSED FIXTURE WITH DRYWALL FLANGE, BATWING DISTRIBUTION, AND WHITE HOUSING. PROVIDE WITH NON-DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
D3	CURRENT	4L-DW-D-4-04-SOF-C1-40K9-D050-NDM-1C-UNV	120/277	LED	500 LUMENS / FOOT 4000°K, 90 CRI	17	RECESSED IN 15/16" T-GRID CEILING	4" x 4" LINEAR LED RECESSED FIXTURE WITH DIFFUSED LENS AND WHITE HOUSING. PROVIDE WITH NON-DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
E	CURRENT	4L-S-D-4-04-SOF-C1-40K9-D050-NDM-1C-UNV	120/277	LED	500 LUMENS / FOOT 4000°K, 90 CRI	17	SURFACE OF CEILING GRID	4" x 4" LINEAR LED SURFACE MOUNTED FIXTURE WITH DIFFUSED LENS AND WHITE HOUSING. PROVIDE WITH NON-DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
G1	CURRENT	6L-DW-D-4-04-BAT-C1-40K9-D100-D01-1C-UNV	120/277	LED	1,000 LUMENS / FOOT 4000°K, 90 CRI	32	RECESSED IN GYPSUM CEILING	6" x 4" LINEAR LED RECESSED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
G2	CURRENT	6L-S-D-8-08-BAT-C1-40K9-D075-D01-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	46	SURFACE MOUNTED TO BOTTOM OF EXISTING UNISTRUT	6" x 8" LINEAR DIRECT LED SURFACE MOUNTED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
G3	CURRENT	6L-S-D-12-06-BAT-C1-40K9-D075-D01-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	70	SURFACE MOUNTED TO BOTTOM OF EXISTING UNISTRUT	6" x 12" LINEAR DIRECT LED SURFACE MOUNTED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
G5	CURRENT	6L-S-D-20-05-BAT-C1-40K9-D075-D01-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	116	SURFACE MOUNTED TO BOTTOM OF EXISTING UNISTRUT	6" x 20" LINEAR DIRECT LED SURFACE MOUNTED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
G7	CURRENT	6L-S-D-28-06-BAT-C1-40K9-D075-D01-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	162	SURFACE MOUNTED TO BOTTOM OF EXISTING UNISTRUT	6" x 28" LINEAR DIRECT LED SURFACE MOUNTED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
G9	CURRENT	6L-S-D-36-06-BAT-C1-40K9-D075-D01-1C-UNV	120/277	LED	750 LUMENS / FOOT 4000°K, 90 CRI	209	SURFACE MOUNTED TO BOTTOM OF EXISTING UNISTRUT	6" x 36" LINEAR DIRECT LED SURFACE MOUNTED FIXTURE WITH BATWING DISTRIBUTION AND WHITE HOUSING. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	LEDALITE, PEERLESS						
L1	CURRENT	CBT22-A-LSCS-EDD	120/277	LED	3,300 LUMENS 4000°K, 80+ CRI	28	RECESSED IN 15/16" T-GRID CEILING	2x2 LED BACKLIT FLAT PANEL WITH SWITCHABLE LUMENS AND CCT. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
L2	CURRENT	CBT24-A-LSCS-EDD	120/277	LED	4,400 LUMENS 4000°K, 80+ CRI	38	RECESSED IN 15/16" T-GRID CEILING	2x4 LED BACKLIT FLAT PANEL WITH SWITCHABLE LUMENS AND CCT. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
L3	CURRENT	CBT24-A-LSCS-EDD-FK24	120/277	LED	4,400 LUMENS 4000°K, 80+ CRI	38	RECESSED IN GYPSUM CEILING	2x4 LED BACKLIT FLAT PANEL WITH SWITCHABLE LUMENS AND CCT. PROVIDE WITH FLANGE KIT FOR GYPSUM CEILING.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
L5	CURRENT	CBT14-A-LSCS-EDD	120/277	LED	2,800 LUMENS 4000°K, 80+ CRI	24	RECESSED IN 15/16" T-GRID CEILING	1x4 LED BACKLIT FLAT PANEL WITH SWITCHABLE LUMENS AND CCT. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
L8	CURRENT	CBT14-A-LSCS-EDD-PSMK14	120/277	LED	2,800 LUMENS 4000°K, 80+ CRI	24	SURFACE OF CEILING	1x4 LED BACKLIT FLAT PANEL WITH SWITCHABLE LUMENS AND CCT. PROVIDE WITH 0-10V DIMMING DRIVER. PROVIDE WITH SURFACE MOUNT KIT FOR GYPSUM CEILING.
	EQUIVALENTS BY	ACUITY, SIGNIFY						

230114-E5002A-DWG

LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	CATALOG NO.	VOLTS	LAMPS		ENERGY INPUT WATTS	MOUNTING	DESCRIPTION
				TYPE	DESCRIPTION			
P1	CURRENT	LCL4-40ML-EU-CSHC	120/277	LED	5,300 LUMENS 4000°K, 80+ CRI	42	PENDANT MOUNTED TO ORIGINAL FIXTURE HEIGHT	4' LED STRIPLIGHT WITH FROSTED ACRYLIC LENS. PROVIDE MOUNTING HARDWARE REQUIRED TO MOUNT NEW FIXTURE AT SAME HEIGHT OF EXISTING FIXTURE.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
P2	CURRENT	LCL4-40ML-EU	120/277	LED	5,300 LUMENS 4000°K, 80+ CRI	42	SURFACE OF WALL	4' LED STRIPLIGHT WITH FROSTED ACRYLIC LENS.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
P3	CURRENT	LCL4-40ML-EU	120/277	LED	5,300 LUMENS 4000°K, 80+ CRI	42	SURFACE OF CEILING	4' LED STRIPLIGHT WITH FROSTED ACRYLIC LENS.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
P5	CURRENT	LCL4-40ML-EDU-CSHC	120/277	LED	5,300 LUMENS 4000°K, 80+ CRI	42	PENDANT MOUNTED TO ORIGINAL FIXTURE HEIGHT	4' LED STRIPLIGHT WITH FROSTED ACRYLIC LENS AND 0-10V DIMMING DRIVER. PROVIDE MOUNTING HARDWARE REQUIRED TO MOUNT NEW FIXTURE AT SAME HEIGHT OF EXISTING FIXTURE.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
R1	CURRENT	LFR-6RD-M-30L40K8-WD-DM1/LFR-6RD-T-SH-WTAML	120/277	LED	1,900 LUMENS 4000°K, 80+ CRI	24	RECESSED IN CEILING	6" APERTURE LED RECESSED DOWNLIGHT WITH IP65 RATING AND NON-CONDUCTIVE SHOWER TRIM. PROVIDE WITH 0-10V DIMMING DRIVER.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
S1	CURRENT	PVNT-4-4-55-40K8-NDM-UNV-D-WHT-OCM-SS(XX)(YY)	120/277	LED	7,400 LUMENS 4000°K, 80+ CRI	55	PENDANT MOUNTED TO ORIGINAL FIXTURE HEIGHT	8" x 4" LED VANDAL RESISTANT STAIRWELL FIXTURE WITH INTEGRAL MICROWAVE OCCUPANCY SENSOR TO DIM LIGHTS TO 30% WHEN UNOCCUPIED. PROVIDE HARDWARE REQUIRED TO MOUNT NEW FIXTURE AT SAME HEIGHT OF EXISTING FIXTURE.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
S2	CURRENT	PVNT-4-4-55-40K8-NDM-UNV-D-WHT-OCM	120/277	LED	7,400 LUMENS 4000°K, 80+ CRI	55	SURFACE OF WALL	8" x 4" LED VANDAL RESISTANT STAIRWELL FIXTURE WITH INTEGRAL MICROWAVE OCCUPANCY SENSOR TO DIM LIGHTS TO 30% WHEN STAIRWELL IS UNOCCUPIED.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
S3	CURRENT	PVNT-4-4-55-40K8-NDM-UNV-D-WHT-OCM	120/277	LED	7,400 LUMENS 4000°K, 80+ CRI	55	SURFACE OF CEILING	8" x 4" LED VANDAL RESISTANT STAIRWELL FIXTURE WITH INTEGRAL MICROWAVE OCCUPANCY SENSOR TO DIM LIGHTS TO 30% WHEN STAIRWELL IS UNOCCUPIED.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
W	ALPHALITE	CSDL-10-60A-8-A-40D	120/277	LED	4,300 LUMENS 4000°K, 80+ CRI	40	RECESSED IN EXTERIOR 4" METAL SLOTTED CEILING	10" APERTURE LED OPEN RECESSED DOWNLIGHT WITH WET LOCATION LISTING, SEMI-SPECULAR REFLECTOR, AND WHITE TRIM RING.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
X	CURRENT	CAR	120/277	LED	-	2	UNIVERSAL	LED EXIT SIGN WITH WHITE THERMOPLASTIC HOUSING, OPTIONAL SINGLE OR DOUBLE FACE, RED LETTERS, AND REMOVABLE CHEVRONS.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
XC	CURRENT	CCRS	120/277	LED	-	2	UNIVERSAL	COMBINATION LED EXIT SIGN AND EMERGENCY EGRESS LIGHT FIXTURE WITH WHITE HOUSING, RED LETTERS AND INTEGRAL BATTERY.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
Y1	CURRENT	WGH1-LS-4K	120/277	LED	2,900 LUMENS 4000°K, 80+ CRI	20	SURFACE OF EXTERIOR WALL	11" WIDE EXTERIOR LED WALL PACK WITH GLASS LENS AND SWITCHABLE LUMENS.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
Y2	CURRENT	WGH2-LSCS-4K	120/277	LED	5,400 LUMENS 4000°K, 80+ CRI	41	SURFACE OF EXTERIOR WALL	14" WIDE EXTERIOR LED WALL PACK WITH GLASS LENS AND SWITCHABLE LUMENS.
	EQUIVALENTS BY	ACUITY, SIGNIFY						
Z	SPECTRUM LIGHTING	C0816XT-30L-40K-XW-EX-TSG-NL-PM24-MW	120/277	LED	2,300 LUMENS 4000°K, 80+ CRI	33	24" RIGID PENDANT MOUNT	8" APERTURE LED PENDANT MOUNTED CYLINDER WITH NO LENS, WIDE DISTRIBUTION, DAMP LOCATION LISTING, ALUMINUM CONSTRUCTION, STAINLESS STEEL HARDWARE, AND WHITE HOUSING.
	EQUIVALENTS BY	ACUITY, SIGNIFY						

ADD ALTERNATE #2

ADD ALTERNATE #2

ADD ALTERNATE #2

ADD ALTERNATE #2

* THE EC SHALL PROVIDE A MOCKUP OF THE TYPE A1 AND A2 FIXTURE FOR THE DESIGNER AND OWNER TO REVIEW THE INSTALLATION.

230114-E5002A-DWG

ADDITIONAL ELECTRICAL NOTES:

- CONTRACTOR SHALL COORDINATE WITH NCSU ENVIRONMENTAL HEALTH AND SAFETY FOR THE SAFE DISPOSAL OF FLOURESCENT LAMPS AND BALLASTS.
- EC SHALL INSTALL ALL RECESSED LIGHT FIXTURES SUCH THAT ALL RECESSED PARTS ARE SPACED NOT LESS THAN 1/2" FROM COMBUSTIBLE MATERIALS ACCORDING TO NEC 410.116(A)(1) AND VERIFY LUMINAIRE LISTING REQUIRED FOR FIXTURES RECESSED IN FIRE RESISTANCE MATERIAL ACCORDING TO NEC 410.116(C).
- WHERE 0-10V DIMMING WIRING IS BEING PULLED THROUGH EXISTING LIGHTING CONDUIT, UTILIZE A NON-METALLIC SHEATHED CABLE AS REQUIRED BY NEC 725.138(I)(1) AND LISTED PER NEC 725.135(A).
- EXISTING FLEXIBLE METAL CONDUIT MAY BE REUSED WHERE CURRENTLY INSTALLED.
- EC SHALL PROPERLY SUPPORT ANY EXISTING EMT, FLEXIBLE METAL CONDUIT, ETC PER NEC WHERE REUSING EXISTING CONDUIT.
- ALL 0-10V DIMMING WIRING SHALL BE INSTALLED IN RACEWAY PER NC STATE UNIVERSITY STANDARDS.
- REMOVE AND STORE EXISTING CEILING TILE AS REQUIRED FOR THIS WORK. REINSTALL EXISTING CEILING TILE ONCE WORK IS COMPLETED. CONTRACTOR SHALL REPLACE ANY CEILING TILE DAMAGED DURING CONSTRUCTION WITH CEILING TILE OF MATCHING TYPE.
- ANY EXPOSED CONDUIT SHALL BE PAINTED TO MATCH EXISTING CONDUIT IN AREA.
- WHERE CUTTING IS REQUIRED BY THIS WORK, CONTRACTOR SHALL PATCH AND PAINT PER SPECIFICATIONS.
- PROVIDE LIGHTING FIXTURE SUPPORTS FOR ALL FIXTURES PER SPECIFICATIONS.
- LUMINAIRE RECESSED IN CEILINGS AND WALLS SHALL NOT BE USED TO ACCESS OUTLET, PULL, OR JUNCTION BOXES OR CONDUIT BODIES UNLESS THE BOX OR CONDUIT BODY IS AN INTEGRAL PART OF THE LISTED LUMINAIRE PER NEC 410.118. EC SHALL RELOCATE ANY EXISTING LUMINAIRE JUNCTION BOXES LOCATED ABOVE INACCESSIBLE CEILING WITH ACCESS ONLY AVAILABLE THROUGH THE LUMINAIRE.



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Project Number: 230114
File Name: 230114-E0102A
Printed: 6/13/2024 1:55 PM



Revision	Date	Description

Mark	Date	Description
	06/17/24 <td>ADDENDUM NO. 1</td>	ADDENDUM NO. 1

LED Conversion - Phase 1 (SCO ID: 22-24921-01A)
FOR
NC STATE UNIVERSITY - CVM MAIN BUILDING
1060 WILLIAM MOORE DRIVE
RALEIGH, NC

Designed By: KMO
Drawn By: MRS
Checked By: RGL
Date: 05/31/2024

E1.2

BID SET

LIGHTING FIXTURE SCHEDULE



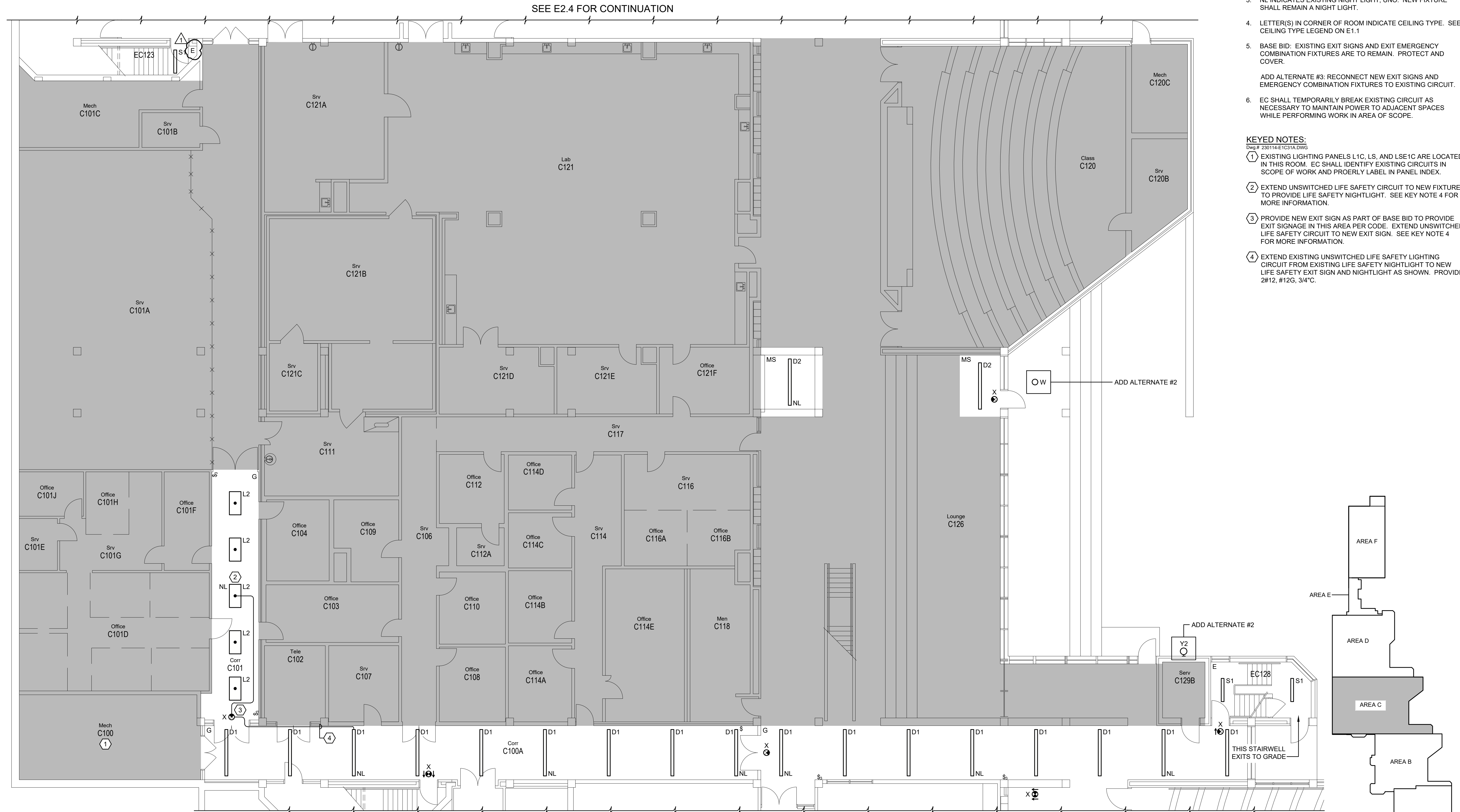
GENERAL NOTES:

1. THIS IS A ONE FOR ONE LIGHTING FIXTURE REPLACEMENT PROJECT. RECONNECT NEW LIGHT FIXTURE TO EXISTING LIGHT FIXTURE CIRCUIT, UNO.
2. EXISTING LIGHTING CONTROLS TO REMAIN, UNO.
3. NL INDICATES EXISTING NIGHT LIGHT, UNO. NEW FIXTURE SHALL REMAIN A NIGHT LIGHT.
4. LETTER(S) IN CORNER OF ROOM INDICATE CEILING TYPE. SEE CEILING TYPE LEGEND ON E.1.
5. BASE BID: EXISTING EXIT SIGNS AND EXIT EMERGENCY COMBINATION FIXTURES ARE TO REMAIN. PROTECT AND COVER.

ADD ALTERNATE #3: RECONNECT NEW EXIT SIGNS AND EMERGENCY COMBINATION FIXTURES TO EXISTING CIRCUIT.
6. EC SHALL TEMPORARILY BREAK EXISTING CIRCUIT AS NECESSARY TO MAINTAIN POWER TO ADJACENT SPACES WHILE PERFORMING WORK IN AREA OF SCOPE.

KEYED NOTES:

1. EXISTING LIGHTING PANELS L1C, LS, AND LSE1C ARE LOCATED IN THIS ROOM. EC SHALL IDENTIFY EXISTING CIRCUITS IN SCOPE OF WORK AND PROPERLY LABEL IN PANEL INDEX.
2. EXTEND UNSWITCHED LIFE SAFETY CIRCUIT TO NEW FIXTURE TO PROVIDE LIFE SAFETY NIGHTLIGHT. SEE KEY NOTE 4 FOR MORE INFORMATION.
3. PROVIDE NEW EXIT SIGN AS PART OF BASE BID TO PROVIDE EXIT SIGNAGE IN THIS AREA PER CODE. EXTEND UNSWITCHED LIFE SAFETY CIRCUIT TO NEW EXIT SIGN. SEE KEY NOTE 4 FOR MORE INFORMATION.
4. EXTEND EXISTING UNSWITCHED LIFE SAFETY LIGHTING CIRCUIT FROM EXISTING LIFE SAFETY NIGHTLIGHT TO NEW LIFE SAFETY EXIT SIGN AND NIGHTLIGHT AS SHOWN. PROVIDE 2#12, #12G, 3/4" C.



1 PARTIAL FIRST FLOOR - AREA C LIGHTING PLAN
E2.3
1/8" = 1'-0"
Dwg # 230114-E3C31A.DWG



Mark	Date	Revision
ADDENDUM NO. 1	06/17/24	

LED Conversion - Phase 1 (SCO ID: 22-24921-01A)
FOR
NC STATE UNIVERSITY - CVM MAIN BUILDING
1060 WILLIAM MOORE DRIVE
RALEIGH, NC
PARTIAL FIRST FLOOR -
AREA C LIGHTING PLAN

Designed By: KMO
Drawn By: MRS
Checked By: RGL
Date: 05/31/2024

E2.3

BID SET



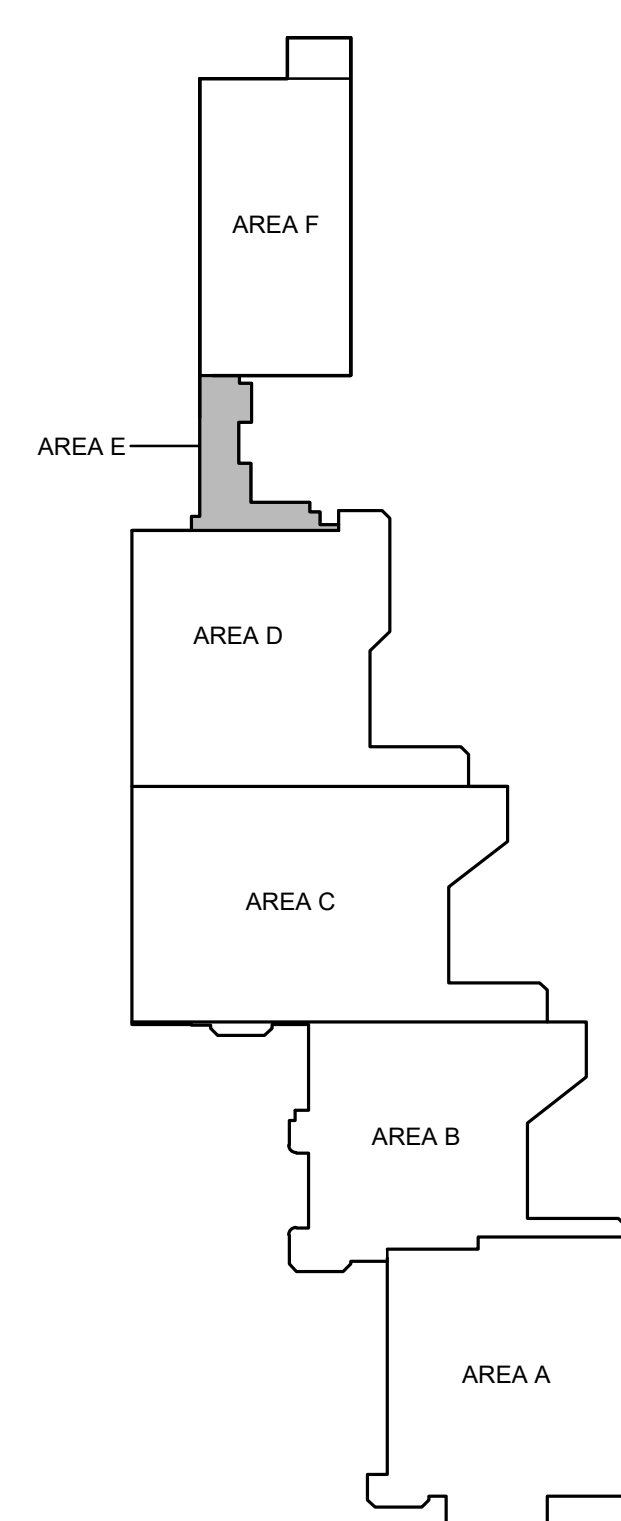
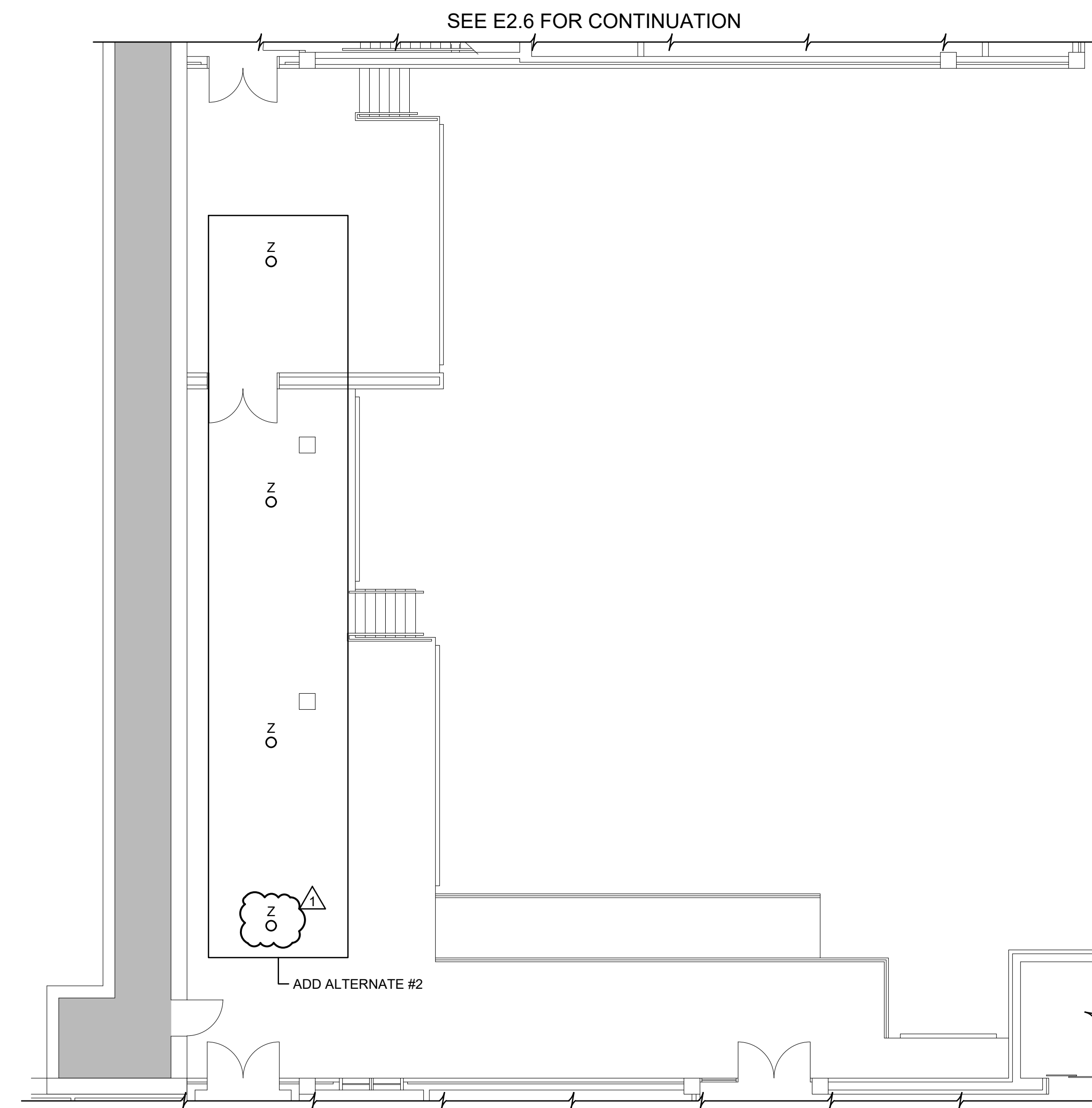
GENERAL NOTES:

1. THIS IS A ONE FOR ONE LIGHTING FIXTURE REPLACEMENT PROJECT. RECONNECT NEW LIGHT FIXTURE TO EXISTING LIGHT FIXTURE CIRCUIT, UNO.
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3. NL INDICATES EXISTING NIGHT LIGHT, UNO. NEW FIXTURE SHALL REMAIN A NIGHT LIGHT.
4. LETTER(S) IN CORNER OF ROOM INDICATE CEILING TYPE. SEE CEILING TYPE LEGEND ON E.1.
5. BASE BID: EXISTING EXIT SIGNS AND EXIT EMERGENCY COMBINATION FIXTURES ARE TO REMAIN. PROTECT AND COVER.

ADD ALTERNATE #3: RECONNECT NEW EXIT SIGNS AND EMERGENCY COMBINATION FIXTURES TO EXISTING CIRCUIT.
6. EC SHALL TEMPORARILY BREAK EXISTING CIRCUIT AS NECESSARY TO MAINTAIN POWER TO ADJACENT SPACES WHILE PERFORMING WORK IN AREA OF SCOPE.

KEYED NOTE:

- 1 PROVIDE NEW FIXTURE AT EXISTING LIGHT FIXTURE OUTLET BOX. RECONNECT NEW LIGHT FIXTURE TO EXISTING LIGHT FIXTURE CIRCUIT.



1 PARTIAL FIRST FLOOR - AREA E LIGHTING PLAN
E2.5
1/8" = 1'-0"
Dwg # 230114-E3E31A.DWG
8' 0' 8' 16'

KEY PLAN
NO SCALE
Dwg # 230114-G2021.DWG

Mark	Date	Revision
△	06/17/24	ADDENDUM NO. 1

LED Conversion - Phase 1 (SCO ID: 22-24921-01A)
FOR
NC STATE UNIVERSITY - CVM MAIN BUILDING
RALEIGH, NC
1060 WILLIAM MOORE DRIVE
PARTIAL FIRST FLOOR - AREA E LIGHTING PLAN

Designed By: KMO
Drawn By: MRS
Checked By: RGL
Date: 05/31/2024

E2.5

BID SET