ADDENDUM NO. 2
August 01, 2025

To the Plans and Specifications for: **University of Idaho Engineering Physics Classroom 201 Computer Lab EANS Improvements Moscow, Idaho**

TO ALL CONTRACTORS SUBMITTING BIDS ON THE ABOVE SUBJECT: This Addendum is hereby made a part of the Contract Documents pertaining to the above project and shall be binding upon each contractor submitting bids. Bid submitted shall be for the full and complete cost of incorporating these changes into the contract, no further claims shall be allowed for work associated with this addendum. It shall further be the responsibility of each Contractor to notify his sub-contractors concerning the contents of this addendum as they specifically apply to them. The additions, revisions, clarifications and corrections contained herein shall be made to drawings and specifications for the project and shall be included in scope of work and proposals to be submitted. Reference made below to specification and drawings shall be as a general guide only. Bidder shall determine the work affected by Addendum items. The following changes hereby become a part of the Contract Documents. Acknowledge receipt of this Addendum in the space provided on the Bid Proposal. Failure to do so may subject Bidder to disqualification.

GENERAL:

1.1 ALL DOCUMENTS

CLARIFICATION: The bid-opening will be held on
THURSDAY, August 7th, until 10:00AM at the University of Idaho Facilities Architectural & Engineering Services.
A revised Bid Proposal Form is attached for the bidder's use.

CLARIFICATION: Labs 101 and 103 and corridor 100 are directly below the project area and will require access for the electrical scope of work –see attached partial existing first floor plan, Sheet A2.00. Access into these rooms shall be coordinated with UI representative Bret Dillon and Aaron Rice and be performed in the evenings after 7:00 PM or during the weekends. The contractor is responsible for protecting furniture and equipment, moving it as needed to complete the work, and returning it to its original position at the end of each workday.

INFORMATION: During construction, the University of Idaho will provide 5 to 8 parking spaces in Lot 14, located north of the job site across 6th Street. An additional 2 parking spaces may be requested in the alley between McClure Hall and Buchanan Engineering buildings.
Staging will be permitted directly south of the Gauss Johnson Engineering Building, with access through the adjacent alley. The generator near the staging area must remain clear and fully accessible at all times
All vehicles parked in these designated construction areas must be clearly marked with the general contractor's or subcontractor's company name or logo. Personal vehicles are not permitted in the construction-designated parking areas.

SPECIFICATIONS:

1.2 SECTION 28 64 00 – FIRE DETECTION AND ALARM

CLARIFICATION: The existing fire detection and alarm system shall remain in place and be modified as needed to meet current code requirements. Refer to the attached revised specification section.

DRAWINGS:

1.3 DRAWING A3.20 – DEMO PLAN

REVISION: Remove and salvage existing carpet tiles in Room 201 and deliver it to owner. Coordinate delivery with UI AES representative.

1.4 DRAWING A3.30 – FLOOR PLAN and EP101 – MAIN FLOOR PLAN: POWER AND SPECIAL SYSTEMS

REVISION: The waffle structural system to receive the poke-through floor boxes is expected to have a slab thickness of approximately 4 ½". The south portion of the room has a deep slab, with approximately 20" of thickness. Note that poke-through box

locations have been adjusted in the revised sheet A3.30. Floor box locations shall be installed as defined in the revised sheet A3.30.

1.5 DRAWING EP101 – MAIN FLOOR PLAN: POWER AND SPECIAL SYSTEMS

REVISION: Revised floor box locations on plan to match Architectural revised locations.

REVISION: Revised keynote 2 to denote where the slicing and extension of existing to remain branch circuits shall occur. Keynote 2 now reads: NEW LOCATIONS OF EXISTING PANELBOARDS 'L2D' AND 'L2F'. VERIFY IN FIELD EXISTING CIRCUITS TO REMAIN ON BOTH PANELBOARDS AND SPLICE AND EXTEND TO NEW PANELBOARD LOCATIONS FROM CEILING ABOVE EXISTING PANELBOARD LOCATIONS.

REVISION: Keynote 3 revised to denote coordination with architectural for exact locations and to ensure the note is typical for all floor boxes. Keynote 3 now reads: CORE DRILL CONCRETE FOR FLOOR BOX WHICH IS TO BE LEGRAND 'EVOLUTION 8AT' OR OWNER APPROVED EQUAL. COORDINATE WITH ARCHITECTURAL FOR FINISH AND EXACT LOCATIONS. TYPICAL FOR ALL FLOOR BOXES

REVISION: Removed Keynote 5 regarding lectern floor box and merged with keynote 6 for clarity. Keynote 8 verbiage moved to keynote 5. It is acceptable for conduit for low voltage to run to cable tray on first floor ceiling in lieu of running to accessible ceiling space above.

CLARIFICATION: Lectern poke-through floor box at front center of the room shall be Wiremold/Legrand Evolution Series 8AT poke-through floor box with black flush style cover. Provide (2) #8MAAP device mounting plates (for AV) and (1) #8ACT6A device mounting plate (for telecom) within the center mount compartment. Provide (3) #1125CHA bottom feed center mount housing assemblies for center mount devices. Provide (1) #68REC 20amp duplex receptacle and (1) #575CHA bottom housing assembly within one of the side compartments. Provide (1) #68MAAP device mounting and (1) #575CHA bottom housing assembly within other side compartment.

CLARIFICATION: Student desk poke-through floor box typical throughout the room shall be Wiremold/Legrand Evolution Series 8AT poke-through floor box with black flush style cover. Provide (1) #8ACT6A device mounting plate (for telecom) within a a side mount compartment. Provide (2) #8DP 20amp duplex receptacle and (2) #575CHA bottom housing assembly within the center and one side mount compartments.

1.6 DRAWING EP601 – ONE-LINE DIAGRAM AND ELECTRICAL SCHEDULES

REVISION: Revised Keynote 2 to clarify where the splice and extension of the existing feeder for panelboards L2D and L2F (shown on one-line diagram) shall occur. Keynote now reads: SPLICE AND EXTEND EXISTING FEEDER FROM EXISTING PANELBOARD LOCATION TO NEW LOCATION. SEE SHEET EP101 FOR EXISTING AND NEW PANELBOARD LOCATIONS.

List of Documents:	Size	No. Of Pages:
Addendum 2	8-½”x 11”	2
Pre-Bid Meeting Minutes	8-½”x 11”	4
Revised Bid Proposal Form	8-½”x 11”	4
Revised Spec Section 28 46 00	8-½”x 11”	8
Architectural Drawings, Sheets A2.00 & A3.30	36”x 24”	2
Electrical Drawings, EP101, E-601	36”x 24”	2

END OF ADDENDUM NO.2.

Pre-Bid Meeting Agenda/Minutes
University of Idaho
Engineering Physics
201 Computer Lab EANS Improvements

DWA Project #25011
UI Project #CP250035
July 29, 2025 10:00

Participants:
Sign-in sheet (see attached)

PROJECT OVERVIEW ITEMS

1. *Meeting's Purpose:* The Pre-Bid Meeting and Walk-Through is to acquaint potential bidders with the University of Idaho – Engineering Physics 201 Computer Lab EANS Improvements project. Questions will be directed to the owner's representative and design team and tours conducted, allowing the bidders to see firsthand the scope of work.

2. *Introductions:*
   - University of Idaho Project Manager: Bret Dillon, 208-885-7358, bdillon@uidaho.edu
   - University of Idaho Construction Manager: Matt Proctor, 208-885-1057, mproctor@uidaho.edu
   - University of Idaho Construction Inspector: Aaron Rice, 208-885-6249, agrice@uidaho.edu
   - Architect: Design West Architects, Ned Warnick 509-332-3113, nwarnick@designwestpa.com
   Isa Lambert 509-332-3113 ilambert@designwestpa.com

3. *Project Summary – scope, cost, and schedule:*
   - The project consists of, but is not limited to, all labor, materials, equipment and services necessary to provide for the interior classroom renovation of approximately 2,100 SF of the Engineering Physics Building, including demolition, finishes, HVAC revisions and electrical work. The preliminary project estimate for the Base Bid scope is in the approximate range of $525,000.
   - Bid Alternate #1 includes the addition of a speaker platform, its ramp structure and railing..
   - Bid Alternate #2 includes the acoustic panels on the South wall.
   - Bid Alternate #3 includes additional markerboards.
   - Bid Alternates #4 and #5 include FFE items and a portion of the AV equipment under a separate contract – not included in the General Contractor scope of work.
   - Review of the project schedule, bidders/contractors will be expected to provide sufficient resources to comply with the project duration requirements contained in the bidding documents.
     - Issue Notice-to-Proceed to Contractor: approx. September 09, 2025
     - Construction Period: 100 days from NTP (approx. December 18 2025)
   - Discussion of any long lead time items
   - Discussion of submittals

4. *Bidding & Contract Procedures:* Sealed proposals will be received at the University of Idaho Facilities Architectural & Engineering Services, 875 Perimeter Drive, University of Idaho, Moscow Idaho 83843 until **10:00 AM prevailing local time** (Pacific Time) on **Thursday, August 07, 2025**. Late bids will not be accepted.
   - The following is required to be submitted with your bid, **NO EXCEPTIONS.** If any of the items below are not submitted the bid will be considered **NON-RESPONSIVE.**
     1. License Number as a Contractor in the state of Idaho.
     2. Bid Proposal forms (provided with bid documents) completed & signed by Contractor, including related Subcontractor Listing.
     3. All blanks on all bid form documents are to be filled out.
     4. Include affidavit concerning alcohol and drug-free workplace.
     5. Include Bid Bond for 5% of the total bid amount. Total bid amount includes base bid plus alternate.
     6. No qualifications may be added to the bid form.
     7. All addendums are required to be acknowledged on the bid.
   - Review insurance and bonding requirements with your provider prior to submitting bid. See General Conditions for insurance and bonding requirements.

5. *Addenda Schedule:*
   - Addendum 2 will be issued on approximately August 01, 2025.

- Substitution requests can be submitted to the Architect (Design West - 254 East Main Street, Pullman, Washington 99163) or via email (ilambert@designwestpa.com). The cut-off for substitution requests is the end of the business day on July 30, 2025.

6. *Project General Items:*
   - A list of plan holders is available upon request, from the office of the architect. Contact Chelsea Holstad, 509-332-3113, cholstad@designwestpa.com
   - The contractor will be responsible for paying the Idaho DOPL inspection/permit fee and other related costs. The Owner shall obtain and pay for plan check fees required by the State of Idaho DOPL. The Contractor shall pay for the general building permit required by the State of Idaho DOPL. Contractor will also be responsible for all other permits required to complete the Work. The estimated building permit cost to the contractor shall be provided in the addendum
   - The existing building will be occupied and fully operational around the project area. The contractor must coordinate their work to minimize disruption to the owner's occupancy of the existing building. All utility shutdowns must be scheduled in advance, with 7 days of advance notice to the owner, as defined in the contract documents. Any access to the building interior must be coordinated with the UI with a 3-day notice as well.
   - The contractor shall be aware of the site constraints, including accessibility and staging requirements in the vicinity of the building. The contractor will be allowed to use some parking and staging areas surrounding the building. The contractor is responsible for security and safety within these areas.
   - A pre-construction meeting will be conducted prior to the commencement of the work.
   - The Owner will not provide pricing adjustments to reflect fluctuations in material market prices. All bid prices must be fixed and held as defined in the bidding and contract documents.
   - The General Conditions of the Contract limit the way in which cost proposals are calculated, including limits on contractor overhead and profit mark-ups.
   - The work on the project shall be done under the supervision of the general contractor. Any time a sub-contractor is on site, there shall be a representative of the general contractor available to oversee and supervise this work. The contractor shall provide a phone number for a superintendent, who is locally available, as well as email to receive any job-related documents.

7. *Project Specific items*
   - Drawings of the original construction of the building are available upon request from the offices of the architect or the Owner. Electronic versions of these documents are available upon request.
   - The Owner will remove any loose equipment and stored material salvage in the immediate project area that the Owner deems worthy of salvage. This will take place prior to the contractor taking possession of the site. All substrates and building conditions will be maintained in the condition as visible on this date; the bidders shall include all necessary costs to improve or modify the substrates to achieve the work shown in the construction documents.
   - The existing building improvements shall be protected and maintained throughout the course of construction. Any damage caused by the work of this project shall be repaired and returned to the current condition without additional cost to the Owner. Should any cleaning or repair work be required and not accomplished by the contractor the cost of the cleaning and repair shall be back charged to the contractor.
   - The contract will include specific University provided requirements for staging areas, parking on campus, and building access. This information will be issued in Addendum #2 and covered at the pre-construction meeting.
   - The job site is to be kept clean, and all locations open to the public will be immediately cleaned upon completion of contractor's work.

PROJECT SITE VISIT & CONTRACTOR QUESTIONS:

Q: Is the project re-using the existing electrical panels?
A: Yes. The existing panels are in good condition and should be re-used.

Q: The back boxes for the monitors are not defined in the drawings, can you please define them?
A: Yes. The back boxes for the monitors are Chief PAC526. Please include this specific product in your bids. See attached revised electrical sheet EP101.

Q: Is the contractor required to re-pull wires for the new location of the electrical panel or is splicing and extending acceptable?
A: No re-pulling required, the contractor is expected to splice and extend existing feeders to new panel location. Please see attached revised electrical sheet.

Q: Are the rooms 101 and 103 going to be vacant for the core drilling on the ceiling structure or are we expected to work around the existing furniture?
A: The contractor shall complete this work after-hours or on weekends as a part of the base contract requirements. The contractor is responsible for protecting furniture and equipment, moving it as needed to complete the work, and returning it to its original position at the end of each work shift.

Q: Where is the fire alarm head end located?
A: Fire alarm head end is in Room 112B on the first floor. Please see attached the First-Floor plan.

Q: What is the thickness of the concrete slab in corridor 100 (south poke throughs for electrical)?
A: Most poke-through core drills occur in the typical waffle pan structure that has a thickness of 4 ½". The south poke-through locations occur over the lower floor corridor and the slab increases in thickness to approximately 20" thick.

Q: Are the floor boxes allowed to run to the cable tray on the first floor, or do they need to run to the ceiling above?
A: Conduit for low voltage can run to and terminate at the cable tray on first floor ceiling.

UI Engineering Physics 201 Computer Lab Project

Pre-Bid Meeting Sign In Sheet

July 29, 2025 10:00 am

	Name	Company	Phone	E-mail (required for minutes distribution)
✓	Ned Warnick	Design West Architects	509-332-3113	nwarnick@designwestpa.com
✓	Isadora Lambert	Design West Architects	509-332-3113	ilambert@designwestpa.com
	Matt Grove	Gropp heating, Air	208-301-8623	Mgrove@groppllc.com
	Tyrel Funke	mike's Mechanical	208-877-1654	Tyrelf@mikes-mechanical.com
	Deacon Norton	[redacted] RLHFP	(208)626-5662	dnorton@RLHFP.com
	SEAN DORIGO	SPRENGER	509.432.3935	SEAN.DORIGO@GMAIL.COM
	CHRIS KILCUP	K&G	208 553 4404	ckilcup@kandgconstructionllc.com
	Shawn Tanata	Kenaston Corp	208-746-1351	rhewett@kenaston.com
	Doug Engel	4J Electric	208-791-4236	Doug@4JElectric.com
	Titus Wincentsen	Quality Contractors	208.669.2698	titus@quality-contractors.com
	Dylan Brazeau	Ginno construction	208-659-8728	Dylan@ginnoconstruction.com
	JERRY HANSEN	GROPP ELECTRIC	509.336.3972	JHANSEN@MOSCOW.COM
	Aaron Marsum	Marsum Construction	509-254-1034	aaron@marsum-construction.com
	Kenneth Schmidt	U of I - CCTC	208-885-7217	kschmidt@uidaho.edu
	Aaron Rice	U of I - AES	208-310-6446	agrice@uidaho.edu

BID PROPOSAL

PROJECT:	**ENGINEERING PHYSICS** **CLASSROOM 201 COMPUTER LAB** UNIVERSITY OF IDAHO Moscow, Idaho
UI PROJECT NUMBER:	CP250035
BID OPENING DATE: BID OPENING TIME:	Thursday August 7, 2024 10:00 A.M. Prevailing Local Time
BID OPENING LOCATION:	Architectural & Engineering Services University of Idaho 875 Perimeter Drive, MS 2281 Moscow, ID 83844-2281 (208) 885-6246

BIDDER'S NAME AND ADDRESS:

_____

_____

_____

BIDDER'S CONTACT PERSON:

_____

TO: Director, Architectural & Engineering Services

The Bidder, in compliance with the Advertisement for Bids for the above referenced project, having examined the bidding and Contract Documents and the site of the proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials and supplies and to provide the service and insurance in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents.

The bidder agrees to commence work on this project on or before a date to be specified in the written Notice to Proceed issued by the Owner and to substantially complete the work within ONE HUNDRED (100) consecutive calendar days after receipt of the Notice to Proceed. The bidder agrees to pay as liquidated damages One Thousand dollars ($1,000) per calendar day after the established substantial completion date or adjusted date as established by change order.

Bidder acknowledges receipt of Addenda No.(s)_____.
(List all Addenda)

BASE PROPOSAL: Bidder agrees to perform all of the base proposal Work described in the specifications and shown on the plans for the sum of

_____ Dollars ($_____)
(Amount shall be shown in both words and figures. If case of discrepancy, amount shown in words shall govern.)

UNIT PRICE PROPOSAL: Bidder agrees to submit the following units costs:

BID ALTERNATE NO. 1: Platform and related ramps and railings.

Add the sum of _____ Dollars ($_____)

(Amount shall be shown in both words and figures. If case of discrepancy, amount shown in words shall govern.)

BID ALTERNATE NO. 2: Acoustical panels.

Add the sum of _____ Dollars ($_____)

(Amount shall be shown in both words and figures. If case of discrepancy, amount shown in words shall govern.)

BID ALTERNATE NO. 3: Markerboards.

Add the sum of _____ Dollars ($_____)

(Amount shall be shown in both words and figures. If case of discrepancy, amount shown in words shall govern.)

The bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall remain valid and may not be withdrawn for a period of thirty (30) calendar days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the Owner's Intent to Award the contract, the bidder shall execute, within ten (10) days, the attached formal contract and deliver to the Owner a Performance Bond and Labor and Materials Payment Bond in the amounts of 100% of the bid amount by a surety company authorized to do business in the State of Idaho, a Certificate of Insurance issued by a surety company authorized to do business in the State of Idaho and accompanied by Power of Attorney, a Contractor's Affidavit Concerning Taxes, and the Public Works Contract Report on Subcontractors.

In the event the contract documents stated above are not returned within ten (10) days, the attached Bid Guarantee for five percent (5%) of the bid amount becomes the property of the Owner for use as liquidated damages for the delay and additional expense to the Owner caused thereby.

Enclosed is bid guarantee consisting of: _____ in the amount of five percent (5%) of the bid amount.

IDAHO NAMING LAW

Refer also to Section 5.6 of the "Supplementary Instructions to Bidders."

Pursuant to Section 67-2310, Idaho Code, the Idaho Naming Law requires that the general contractor must list the business name and Public Works license number of certain subcontractors in the Bid Form at the time the bid is submitted. The law stipulates that these will be the major mechanical and electrical subcontractors who the general contractor agrees to engage to do the work. **The firms listed below must be those who will actually do the work on site, regardless of contractual considerations between the general contractor and the subcontractors.** If the scope of work does not include mechanical or electrical components, any firm hired to do incidental piping or wiring such as the installation of a temporary service to a job trailer, need not be listed.

The names and public works licenses of subcontractors to whom work will be awarded, subject to approval of the Owner and Architect, if the undersigned is awarded the contract, are as follows:

Plumbing (PWCL Category 15400)

Does this project involve Plumbing work? Yes _____ No _____

(Name) _____

Idaho Public Works Contractors License No. _____

Heating, Ventilating & Air Conditioning (PWCL Category 15700-HVAC)

Does this project involve Heating, Ventilating & Air Conditioning work? Yes _____ No _____

(Name)_____

Idaho Public Works Contractors License No._____

Electrical (PWCL Category 16000)

Does this project involve Electrical work? Yes _____ No _____

(Name) _____

Idaho Public Works Contractors License No. _____

IDAPA 18.01.49 requires that the fire sprinkler contractor/subcontractor be licensed as an Idaho Fire Sprinkler Contractor. The Owner requests the name and license numbers of the contractor/subcontractor who will perform the fire sprinkler work, subject to approval of Owner and Architect, if undersigned is awarded the Contract:

Does this project involve Fire Sprinkler work? Yes _____ No _____

(Name) _____

Idaho Public Works Contractors License No. _____

Should the listing of subcontractors change due to selection of alternates or other similar circumstances, attach explanation.

The State of Idaho policy prohibits purchase of asbestos projects and asbestos containing

materials for use in or on any facilities, including personal and real property, where acceptable alternatives are available.

The contractor certifies by submission of this bid proposal that the products or materials to be furnished as a result of this bid are asbestos free. Projects for which an adequate substitute is not available shall be identified by a separate written statement. The asbestos content shall be given if known and a certification that no known asbestos substitute exists.

The owner will hold the contractor and/or his supplier(s) liable for any asbestos removal and replacement costs as a result of the contractor's failure to comply with this requirement.

The undersigned notifies that it is of this date duly licensed as an Idaho Public Works Contractor and further that it possesses Idaho Public Works Contractor's License No. _____, and is domiciled in the State of _____.

Dated this _____ day of_____,_____.
(date) (month) (year)

Respectfully submitted by:

_____
(Contractor's Name)

SEAL
(Seal - if bid is by a corporation)

_____
(Street or PO Address)

_____
(City, State and zip code)

_____
(Authorized Signature)

_____
(Title)

_____
(Telephone Number)

_____
(FAX Number)

_____
(Email Address)

Have you remembered to include a bid security (bid bond or a certified or cashier's check), the power of attorney (if using a bid bond) and the Contractor's Affidavit Concerning Alcohol and Drug-Free Workplace with your bid?

END OF BID PROPOSAL

SECTION 28 46 00 - FIRE DETECTION AND ALARM

A. PART 1 – GENERAL

I. SECTION OVERVIEW

1. This Performance Specification describes the characteristics, material quality, and installation requirements for a complete Fire Alarm and Detection System.
2. It is the responsibility of the Fire Alarm Contractor to determine all the system components and services that are required as part of the system and provide a design to meet the requirements of the AHJ (Authority Having Jurisdiction).
3. Any work involving the shut-down or possible accidental activation of any fire alarm must be coordinated in advance with Facilities Fire Alarm and UI/EHS.
4. The contractor shall cover existing fire alarm systems in work zones to protect devices from dust or damage.
5. Protection of existing devices or the shutdown of any existing devices must be coordinated in advance with the Ui Construction Manager and / or the Facilities Fire Alam Shop.

II. SECTION INCLUDES

1. Fire alarm system design and installation, including all components, wiring, and conduit.
2. Transmitters for communication with existing station.
3. Circuits from protected premises to supervising station, including conduit.

III. RELATED REQUIREMENTS

1. Section 07 84 00 - Firestopping: Materials and methods for work to be performed by this installer.
2. Designed using manufacturer's product-specific design software or based on manufacturer's pre-engineered design suitable for the application.
3. Section 08 33 23 - Overhead Coiling Doors: Coiling fire doors to be released by fire alarm system.
4. Section 08 71 00 - Door Hardware: Electrically operated locks and door holder devices to be monitored and released by fire alarm system.
5. Section 21 13 00 - Fire-Suppression Sprinkler Systems: Supervisory, alarm, and actuating devices installed in sprinkler system.
6. Section 23 33 00 - Air Duct Accessories: Smoke dampers monitored and controlled by fire alarm system.
7. Section 26 05 48 - Vibration and Seismic Controls for Electrical Systems: Requirements for the seismic qualification of equipment specified in this section.

IV. REFERENCE STANDARDS

1. University of Idaho Design Guidelines and Construction Standards Version 2024-06.04
2. University of Idaho Structured Cabling Standards Version 2.4
3. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
4. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

5. IEEE C62.41.2 - IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits; 2002 (Corrigendum 2012).
6. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
7. NFPA 72 - National Fire Alarm and Signaling Code; Most Recent Edition Cited by Referring Code or Reference Standard.
8. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
9. UL 268 - Standard for Smoke Detectors for Fire Alarm Systems; Current Edition, Including All Revisions.

V. SUBMITTALS
1. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
2. Drawings must be prepared using AutoCAD Release 10 or later.
   a. Owner will provide floor plan drawings for Contractor's use; verify all dimensions on Owner-provided drawings.
3. Evidence of designer qualifications.
4. Design Documents: Submit all information required for plan review and permitting by authorities having jurisdiction, including but not limited to floor plans, riser diagrams, and description of operation:
   a. Copy (if any) of list of data required by authority having jurisdiction.
   b. NFPA 72 "Record of Completion", filled out to the extent known at the time.
   c. Clear and concise description of operation, with input/output matrix similar to that shown in NFPA 72 Appendix A-7-5-2.2(9), and complete listing of software required.
   d. System zone boundaries and interfaces to fire safety systems.
   e. Location of all components, circuits, and raceways; mark components with identifiers used in control unit programming.
   f. Circuit layouts; number, size, and type of raceways and conductors; conduit fill calculations; spare capacity calculations; notification appliance circuit voltage drop calculations.
   g. List of all devices on each signaling line circuit, with spare capacity indicated.
   h. Manufacturer's detailed data sheet for each component, including wiring diagrams, installation instructions, and circuit length limitations.
   i. Description of power supplies; if secondary power is by battery include calculations demonstrating adequate battery power.
   j. Certification by either the manufacturer of the control unit or by the manufacturer of each other component that the components are compatible with the control unit.
   k. Certification by the manufacturer of the control unit that the system design complies with Contract Documents.
   l. Certification by Contractor that the system design complies with Contract Documents.
5. Evidence of installer qualifications.
6. Evidence of instructor qualifications; training lesson plan outline.
7. Evidence of maintenance contractor qualifications, if different from installer.
8. Inspection and Test Reports:
   a. Submit inspection and test plan prior to closeout demonstration.
   b. Submit documentation of satisfactory inspections and tests.
   c. Submit NFPA 72 "Inspection and Test Form," filled out.

9. Operating and Maintenance Data: See Section 01 78 00 for additional requirements; revise and resubmit until acceptable; have one set available during closeout demonstration:
    a. Original copy of NFPA 72 with portions that are not relevant to this project neatly crossed out by hand; label with project name and date.
    b. Complete set of specified design documents, as approved by authority having jurisdiction.
    c. Additional printed set of project record documents and closeout documents, bound or filed in same manuals.
    d. Contact information for firm that will be providing contract maintenance and trouble call-back service.
    e. List of recommended spare parts, tools, and instruments for testing.
    f. Replacement parts list with current prices, and source of supply.
    g. Detailed troubleshooting guide and large scale input/output matrix.
    h. Preventive maintenance, inspection, and testing schedule complying with NFPA 72; provide printed copy and computer format acceptable to Owner.
    i. Detailed but easy to read explanation of procedures to be taken by non-technical administrative personnel in the event of system trouble, when routine testing is being conducted, for fire drills, and when entering into contracts for remodeling.
10. Project Record Documents: See Section 01 78 00 for additional requirements; have one set available during closeout demonstration:
    a. Complete set of floor plans showing actual installed locations of components, conduit, and zones.
    b. "As installed" wiring and schematic diagrams, with final terminal identifications.
    c. "As programmed" operating sequences, including control events by device, updated input/output chart, and voice messages by event.
11. Closeout Documents:
    a. Certification by manufacturer that the system has been installed in compliance with manufacturer's installation requirements, is complete, and is in satisfactory operating condition.
    b. NFPA 72 "Record of Completion", filled out completely and signed by installer and authorized representative of authority having jurisdiction.
    c. Certificate of Occupancy.
    d. Maintenance contract.
    e. Report on training results.
12. Maintenance Materials:
    a. See Section 01 60 00 - Product Requirements, for additional provisions.

VI. QUALITY ASSURANCE

1. Copies of Design Criteria Documents: Maintain at the project site for the duration of the project, bound together, an original copy of NFPA 72, the relevant portions of applicable codes, and instructions and guidelines of authorities having jurisdiction; deliver to Owner upon completion.
2. Designer Qualifications: NICET Level III or IV (3 or 4) certified fire alarm technician or registered fire protection engineer, employed by fire alarm control panel manufacturer, Contractor, or installer , with experience designing fire alarm systems in the jurisdictional area of the authorities having jurisdiction.
3. Installer Qualifications: Firm with minimum 3 years documented experience installing fire alarm systems of the specified type and providing contract maintenance service as a regular part of their business.

a. Authorized representative of control unit manufacturer; submit manufacturer's certification that installer is authorized; include name and title of manufacturer's representative making certification.
b. Installer Personnel: At least 2 years of experience installing fire alarm systems.
c. Supervisor: NICET level III or IV (3 or 4) certified fire alarm technician; furnish name and address.
d. Contract maintenance office located within 50 miles (80 km) of project site.
e. Certified in the State in which the Project is located as fire alarm installer.

4. Maintenance Contractor Qualifications: Same entity as installer or different entity with specified qualifications.
5. Instructor Qualifications: Experienced in technical instruction, understanding fire alarm theory, and able to provide the required training; trained by fire alarm control unit manufacturer.
6. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

VII. WARRANTY
1. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
2. Provide control panel manufacturer's warranty that system components other than wire and conduit are free from defects and will remain so for 1 year after date of Substantial Completion.
3. Provide installer's warranty that the installation is free from defects and will remain so for 1 year after date of Substantial Completion.

B. PART 2 – PRODUCTS

I. MANUFACTURERS
1. Fire Alarm Accessories: Initiating Devices and Notification Appliances
a. All Accessories to match existing system and University of Idaho Standards. May submit comparable equals to existing and/or updated series model.
2. Substitutions: See Section 01 60 00 - Product Requirements.
a. For other acceptable manufacturers of control units specified, submit product data showing equivalent features and compliance with Contract Documents.
b. For substitution of products by manufacturers not listed, submit product data showing features and certification by Contractor that the design will comply with Contract Documents.

II. FIRE ALARM SYSTEM
1. Fire Alarm System: Modify existing automatic fire detection and alarm system as required to maintain performance:
a. Provide all components necessary, regardless of whether shown in Contract Documents or not.
b. Protected Premises: Entire buildings shown on drawings.
c. Comply with the following; where requirements conflict, order of precedence of requirements is as listed:
i. ADA Standards.
ii. The requirements of the State Fire Marshal.
iii. The requirements of the local authority having jurisdiction .
iv. Applicable local codes.
v. Contract Documents (drawings and specifications).

vi. NFPA 101.
vii. NFPA 72; where the word "should" is used consider that provision mandatory; where conflicts between requirements require deviation from NFPA 72, identify deviations clearly on design documents.

d. General Evacuation Zones: Each smoke zone is considered a general evacuation zone unless otherwise indicated, with alarm notification in all zones on the same floor, on the floor above, and the floor below.

e. Program notification zones and voice messages as directed by Owner.

f. Combined Systems: Do not combine fire alarm system with other non-fire systems.

2. Supervising Stations and Fire Department Connections:

a. Public Fire Department Notification: By on-premises supervising station.

b. On-Premises Supervising Station: Existing proprietary station operated by Owner.

c. Means of Transmission to Remote Supervising Station: Digital alarm communicator transmitter (DACT), 2 telephone lines.

3. Circuits:

a. All conductors shall be minimum size #16 AWG solid copper.

b. All wiring shall be installed in conduit and shall be minimum 3/4" trade size.

c. All single insulated conductors installed on fire alarm systems shall conform to the following color code:

d. Notification appliance circuits (NAC): Red (+) and Black (-).

e. Class B Alarm initiating circuits (IDC): Orange (+) and White (-).

f. 24 Volt DC power circuits: Yellow (+) and Blue (-).

Control circuits: Brown and/or Pink

i. - Signaling Line Circuits (SLC): Orange (+) and White (-).

4. Power Sources:

a. Primary: Dedicated branch circuits of the facility power distribution system.

b. Secondary: Storage batteries.

c. Capacity: Sufficient to operate entire system for period specified by NFPA 72.

d. Each Computer System: Provide uninterruptible power supply (UPS).

III. FIRE SAFETY SYSTEMS INTERFACES

1. Supervision: Provide supervisory signals in accordance with NFPA 72 for the following:

a. Sprinkler water control valves.

b. Dry-pipe sprinkler system pressure.

c. Dry-pipe sprinkler valve room low temperature.

2. Alarm: Provide alarm initiation in accordance with NFPA 72 for the following:

a. Sprinkler water flow.

IV. COMPONENTS

1. General:

a. Provide flush mounted units where installed in finish areas; in unfinished areas, surface mounted unit are acceptable.

b. Provide legible, permanent labels for each control device, using identification used in operation and maintenance data.

2. Notification Appliances:

a. Strobes:

i. Provide 1 extra.

3. Circuit Conductors: Copper or optical fiber; provide 200 feet (60 m) extra; color code and label.

4. Surge Protection: In accordance with IEEE C62.41.2 category B combination waveform and NFPA 70; except for optical fiber conductors.
    a. Initiating Device Circuits, Notification Appliance Circuits, and Communications Circuits: Provide surge protection at each point where circuit exits or enters a building; rated to protect applicable equipment; for 24 V(dc) maximum dc clamping voltage of 36 V(dc), line-to-ground, and 72 V(dc), line-to-line.
    b. Signaling Line Circuits: Provide surge protection at each point where circuit exits or enters a building, rated to protect applicable equipment.
5. Instruction Charts: Printed instruction chart for operators, showing steps to be taken when a signal is received (normal, alarm, supervisory, and trouble); easily readable from normal operator's station.
    a. Frame: Stainless steel or aluminum with polycarbonate or glass cover.
    b. Provide one for each control unit where operations are to be performed.
    c. Obtain approval of Owner prior to mounting; mount in location acceptable to Owner.
    d. Provide extra copy with operation and maintenance data submittal.
6. Storage Cabinet for Spare Parts and Tools: Steel with baked enamel finish, size appropriate to quantity of parts and tools.
    a. Padlock eye and hasp for lock furnished by Owner.
    b. Locate as directed by Owner.

C. PART 3 – EXECUTION

I. INSTALLATION
1. Install in accordance with applicable codes, NFPA 72, NFPA 70, and Contract Documents.
2. Conceal all wiring, conduit, boxes, and supports where installed in finished areas.
3. Obtain Owner's approval of locations of devices, before installation.
4. Install instruction cards and labels.

II. INSPECTION AND TESTING FOR COMPLETION
1. Notify Owner 7 days prior to beginning completion inspections and tests.
2. Notify authorities having jurisdiction and comply with their requirements for scheduling inspections and tests and for observation by their personnel.
3. Provide the services of the installer's supervisor or person with equivalent qualifications to supervise inspection and testing, correction, and adjustments.
4. Prepare for testing by ensuring that all work is complete and correct; perform preliminary tests as required.
5. Provide all tools, software, and supplies required to accomplish inspection and testing.
6. Perform inspection and testing in accordance with NFPA 72 and requirements of local authorities; document each inspection and test.
7. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.
8. Diagnostic Period: After successful completion of inspections and tests, Operate system in normal mode for at least 14 days without any system or equipment malfunctions.
    a. Record all system operations and malfunctions.
    b. If a malfunction occurs, start diagnostic period over after correction of malfunction.
    c. Owner will provide attendant operator personnel during diagnostic period; schedule training to allow Owner personnel to perform normal duties.

d. At end of successful diagnostic period, fill out and submit NFPA 72 "Inspection and Testing Form."

III. OWNER PERSONNEL INSTRUCTION

1. Provide the following instruction to designated Owner personnel:
   a. Hands-On Instruction: On-site, using operational system.
   b. Classroom Instruction: Owner furnished classroom, on-site or at other local facility.
2. Administrative: One-hour session(s) covering issues necessary for non-technical administrative staff; classroom:
   a. Initial Training: 1 session pre-closeout.
3. Basic Operation: One-hour sessions for attendant personnel, security officers, and engineering staff; combination of classroom and hands-on:
   a. Initial Training: 1 session pre-closeout.
4. Furnish the services of instructors and teaching aids; have copies of operation and maintenance data available during instruction.
5. Provide means of evaluation of trainees suitable to type of training given; report results to Owner.

IV. CLOSEOUT

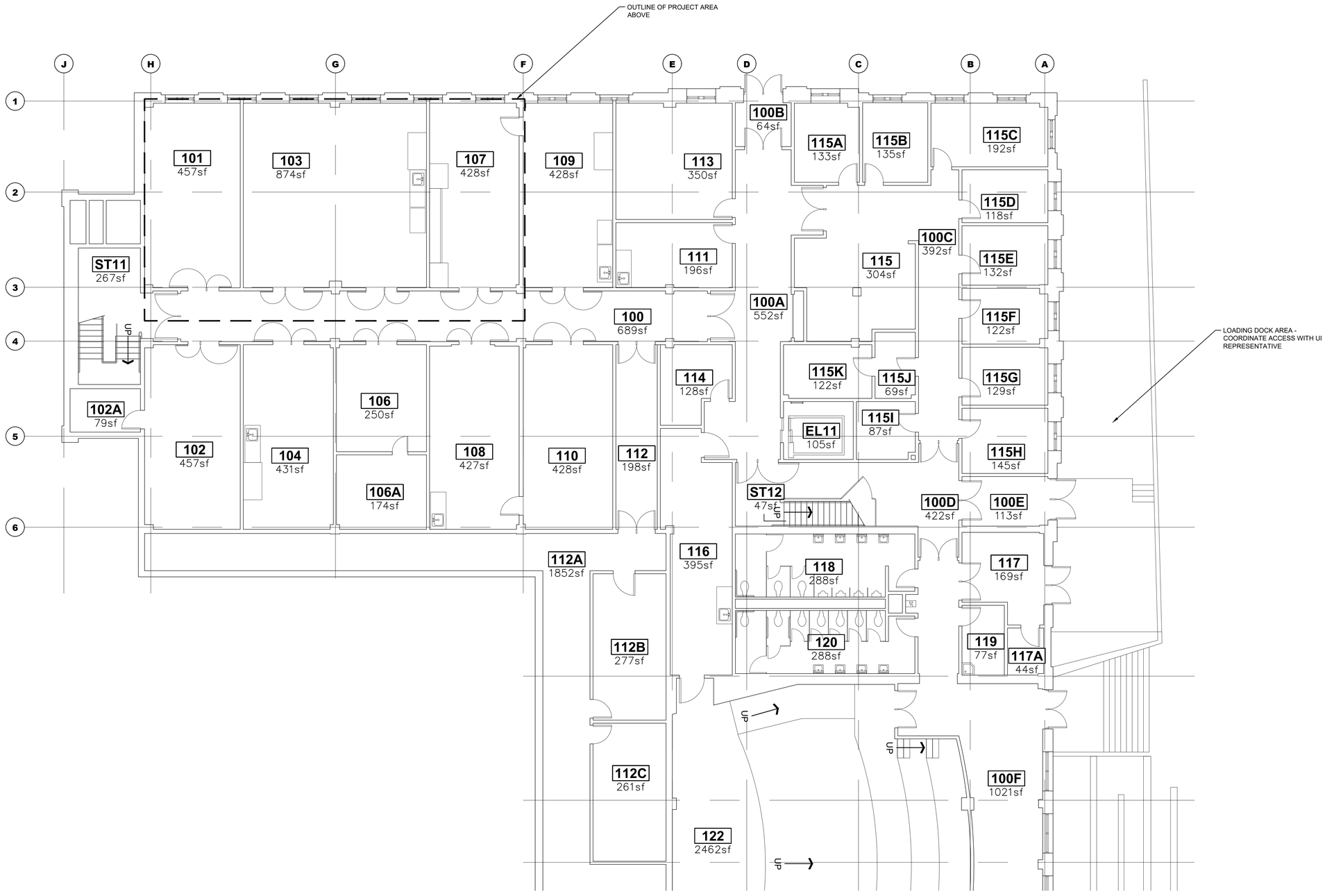
1. Closeout Demonstration: Demonstrate proper operation of all functions to Owner.
   a. Be prepared to conduct any of the required tests.
   b. Have at least one copy of operation and maintenance data, preliminary copy of project record drawings, input/output matrix, and operator instruction chart(s) available during demonstration.
   c. Have authorized technical representative of control unit manufacturer present during demonstration.
   d. Demonstration may be combined with inspection and testing required by authority having jurisdiction; notify authority having jurisdiction in time to schedule demonstration.
   e. Repeat demonstration until successful.
2. Occupancy of the project will not occur prior to Substantial Completion.
3. Substantial Completion of the project cannot be achieved until inspection and testing is successful and:
   a. Specified diagnostic period without malfunction has been completed.
   b. Approved operating and maintenance data has been delivered.
   c. Spare parts, extra materials, and tools have been delivered.
   d. All aspects of operation have been demonstrated to Owner.
   e. Final acceptance of the fire alarm system has been given by authorities having jurisdiction.
   f. Occupancy permit has been granted.
   g. Specified pre-closeout instruction is complete.
4. Perform post-occupancy instruction within 3 months after Substantial Completion.

V. MAINTENANCE

1. See Section 01 70 00 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.
2. Provide to Owner, at no extra cost, a written maintenance contract for entire manufacturer's warranty period, to include the work described below.

3. Provide to Owner, a proposal as an alternate to the base bid, for a maintenance contract for entire warranty period, to include the work described below; include the total cost of contract, proposal to be valid at least until 30 days after date of Substantial Completion.
4. Perform routine inspection, testing, and preventive maintenance required by NFPA 72, including:
    a. Maintenance of fire safety interface and supervisory devices connected to fire alarm system.
    b. Repairs required, unless due to improper use, accidents, or negligence beyond the control of the maintenance contractor.
    c. Record keeping required by NFPA 72 and authorities having jurisdiction.
5. Provide trouble call-back service upon notification by Owner:
    a. Provide on-site response within 2 hours of notification.
    b. Include allowance for call-back service during normal working hours at no extra cost to Owner.
    c. Owner will pay for call-back service outside of normal working hours on an hourly basis, based on actual time spent at site and not including travel time; include hourly rate and definition of normal working hours in maintenance contract.
6. Provide a complete description of preventive maintenance, systematic examination, adjustment, cleaning, inspection, and testing, with a detailed schedule.
7. Maintain a log at each fire alarm control unit, listing the date and time of each inspection and call-back visit, the condition of the system, nature of the trouble, correction performed, and parts replaced. Submit duplicate of each log entry to Owner's representative upon completion of site visit.
8. Comply with Owner's requirements for access to facility and security.

END OF SECTION 28 46 00



NORTH

A1 **PARTIAL EXISTING FIRST FLOOR PLAN**

SCALE: 1/8" = 1'-0"

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JOB NUMBER
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REVISIONS

LICENSED ARCHITECT
AR-21821
08/01/25

UNIVERSITY OF IDAHO
ENGINEERING PHYSICS 201
CLASSROOM

690 S ASH ST,
MOSCOW, ID 83843

DATE
08/01/25

SHEET NAME
PARTIAL EXISTING FIRST FLOOR PLAN

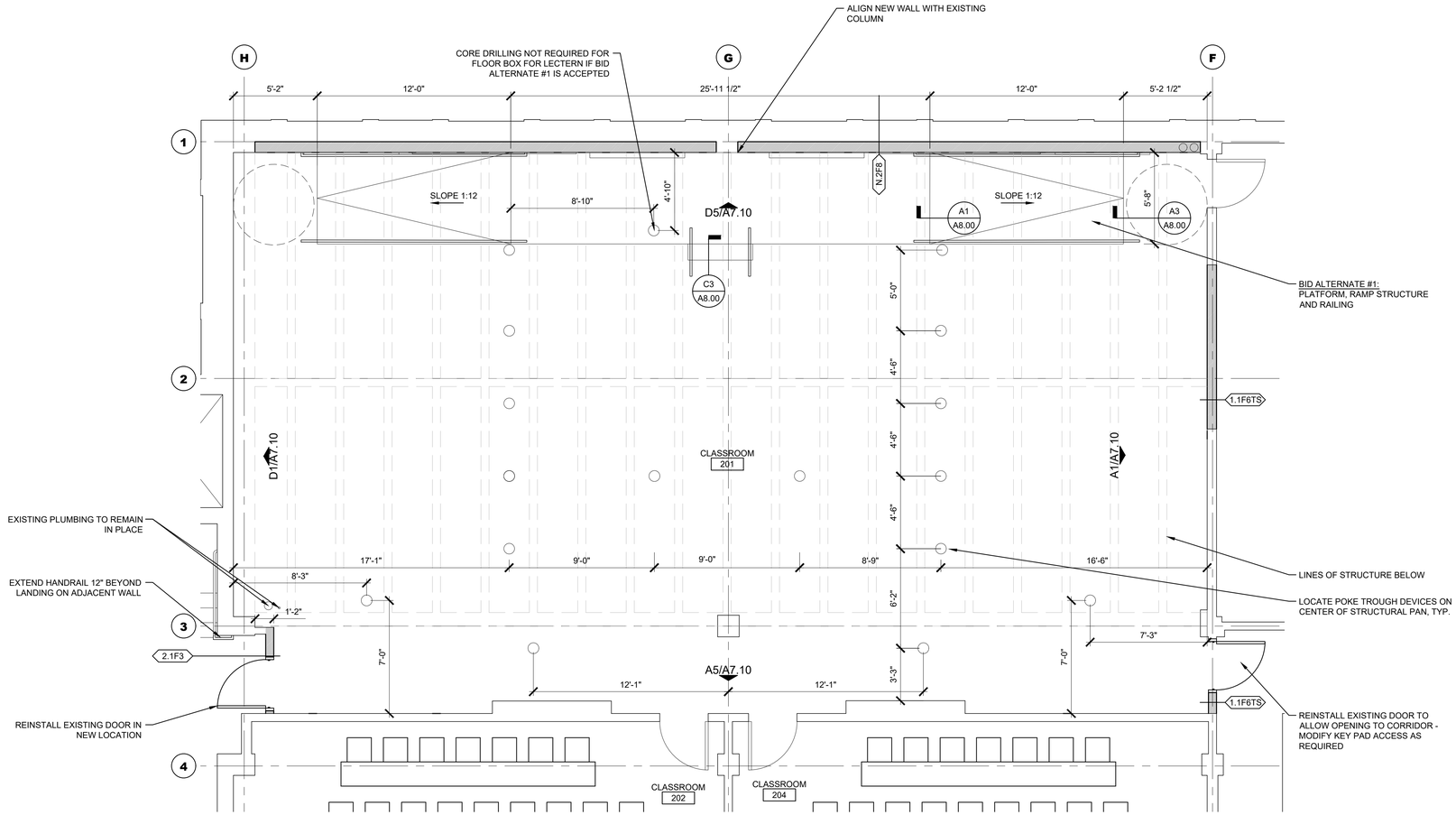
SHEET
A2.00

GENERAL NOTES:

1. SEE SHEET G1.00 FOR SYMBOLS AND ABBREVIATIONS.
2. SEE SHEET A8.00 FOR WALL & CEILING CONSTRUCTION DETAILS.
3. DIMENSIONS ARE FROM FACE OF STUD OR FACE OF CONCRETE U.N.O.
4. INTERIOR WALL ASSEMBLIES SHALL BE FULL HEIGHT TO UNDERSIDE OF EXISTING DECK.
5. PROVIDE SOLID BLOCKING TO SUPPORT WALL HUNG EQUIPMENT, SHELVING, AND OTHER ACCESSORIES REQUIRING SUPPORT. VERIFY LOCATIONS PRIOR TO INSTALLATION.

LEGEND

- NEW INTERIOR FRAMED WALL
- EXISTING FRAMED WALL
- XX/XX.XX — INTERIOR ELEVATIONS
- 301 — DOOR NUMBER - SEE DOOR SCHEDULE
- S06.0B — NEW WALL TAG, SEE SHEET A8.00 FOR DETAILS



NORTH

A1 FLOOR PLAN

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

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REVISIONS

LICENSED ARCHITECT
NORMAN WEST
08/01/25

UNIVERSITY OF IDAHO
ENGINEERING PHYSICS 201
CLASSROOM

690 S ASH ST,
MOSCOW, ID 83843

DATE
08/01/25

SHEET NAME
FLOOR PLAN

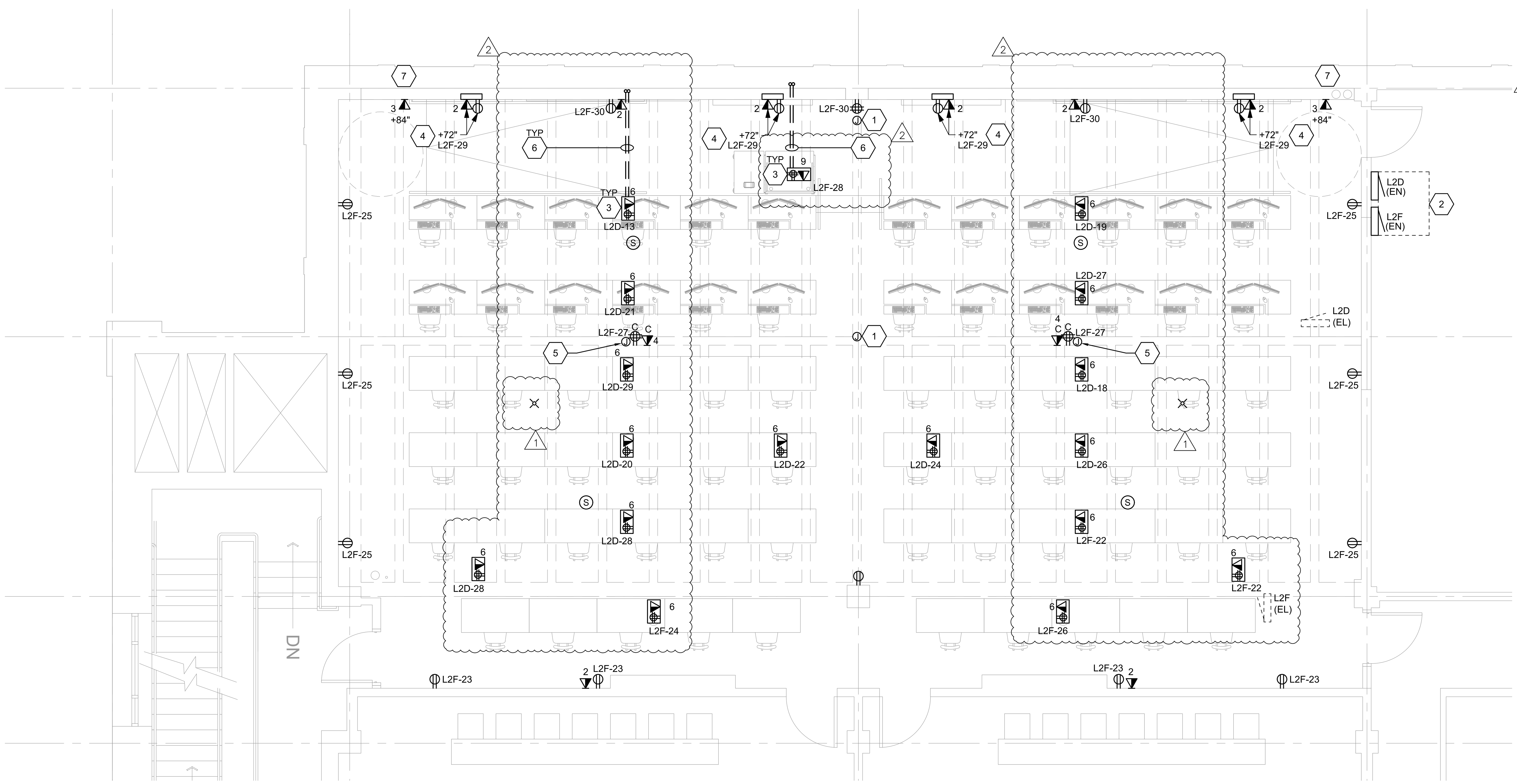
SHEET
A3.30

SHEET NOTES

1. DEMOLISH ALL WIRING DEVICES, LIGHTING AND LIGHTING CONTROLS AND ASSOCIATED APPURTENANCES IN AREA OF WORK UNLESS OTHERWISE NOTED. PRESERVE EXISTING TO REMAIN BRANCH CIRCUITS THAT MAY BE CROSSING AREA OF DEMOLITION. COORDINATE DEMOLITION AREAS WITH ARCHITECTURAL PLANS.
2. REFERENCE EQUIPMENT SCHEDULES ON SHEET E-602 FOR MORE INFORMATION.
3. COORDINATE ALL MOUNTING, LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS.
4. VERIFY ALL DEVICE MOUNTING AND LOCATIONS OF ELECTRICAL DEVICES WITH ARCHITECTURAL AND CASEWORK PRIOR TO ROUGH-IN.
5. CONTRACTOR TO PROVIDE ROUGH-IN FOR ALL SPECIAL SYSTEMS DEVICES SHOWN PER ROUGH-IN REQUIREMENTS NOTED ON SHEET E-001. ALL DATA CONDUITS WILL BE ROUTED BACK TO ROOM 115K. COORDINATE ALL WORK WITH OWNER'S IT MANAGER.
6. CONTRACTOR TO COMPLY WITH ALL UNIVERSITY OF IDAHO STANDARDS.
7. FIRE ALARM STROBES ARE TO BE GENTEX COMMANDER4 SERIES GCS, GCC OR OWNER APPROVED EQUIVALENT, AND LOCATIONS AND COORDINATES ARE TO BE COORDINATED WITH AHJ. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND SHALL BE MINIMUM 3/4" TRADE SIZE. REFERENCE PERFORMANCE SPECIFICATION '28 46 00 - FIRE DETECTION AND ALARM' FOR ALL FIRE ALARM SYSTEM REQUIREMENTS.

KEY NOTES

1. CEILING MOUNTED AUTOMATED CAMERA.
2. NEW LOCATIONS OF EXISTING PANELBOARDS 'L2D' AND 'L2F'. VERIFY IN FIELD EXISTING CIRCUITS TO REMAIN ON BOTH PANELBOARDS AND SPLICE AND EXTEND TO NEW PANELBOARD LOCATIONS FROM CEILING ABOVE EXISTING PANELBOARD LOCATIONS.
3. CORE DRILL CONCRETE FOR FLOOR BOX WHICH IS TO BE LEGRAND 'EVOLUTION 8AT' OR OWNER APPROVED EQUAL. COORDINATE WITH ARCHITECTURAL FOR FINISH AND EXACT LOCATIONS. TYPICAL FOR ALL FLOOR BOXES
4. PROVIDE BACKING BOX, CHIEF #PAC526 OR OWNER APPROVED EQUAL FOR LCD DISPLAY. DUPLEX OUTLETS AND DATA ROUGH-IN FOR 3 NETWORK PORTS ARE TO BE MOUNTED IN THE BACKING BOX. PROVIDE (1) 1-1/4" CONDUIT TO ACCESSIBLE CEILING. COORDINATE EXACT LOCATION OF BACKING BOX WITH OWNER'S IT.
5. 1-1/4"CO FOR FIBER CONNECTION.
6. PROVIDE (1) 1-1/4" CO FROM FLOOR BOX TO ACCESSIBLE CEILING SPACE FOR DATA. CONTRACTOR TO VERIFY OPTIMAL ROUTE FOR ALL FLOOR BOX CONDUIT. PROVIDE (1) 1" CONDUIT FOR BRANCH CIRCUIT BACK TO PANELBOARD DESIGNATED IN CIRCUIT TAG. TYPICAL FOR ALL STUDENT DESK FLOOR BOXES AND LECTERN.
7. AUDIENCE CAMERA. COORDINATE FINAL LOCATION WITH OWNER'S IT.



1 MAIN FLOOR PLAN: POWER AND SPECIAL SYSTEMS

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

NORTH

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REVISIONS

1	06-11-2025	IDOPL REVIEW
2	07-31-2025	ADDENDUM 2

KARTCHNER ENGINEERING
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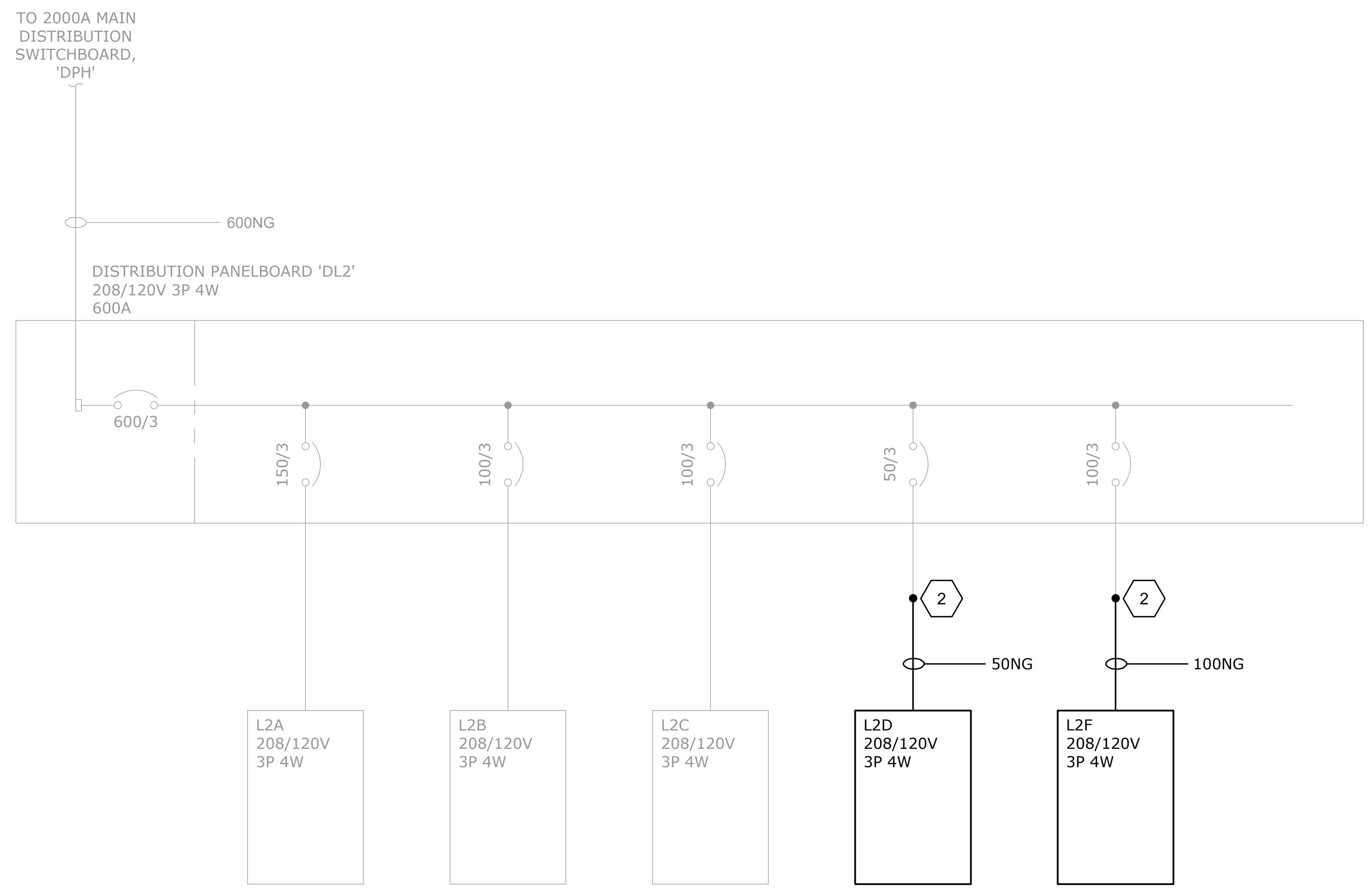
DATE
06/04/25

SHEET NAME
MAIN FLOOR PLAN: POWER AND SPECIAL SYSTEMS

SHEET
EP101



ONE-LINE DIAGRAM (1)

1 / -
SCALE : NTS

COPPER FEEDER SCHEDULE

CIRCUIT SIZE AMPS	QTY SETS	CONDUIT TRADE SIZE (NOTE 2)								CONDUCTORS (NOTE 1) (NOTE 3)			
		NONE (NOTE 5)	N	G (NOTE 4)	NG	NGI	NNG	NNGI	GS (NOTE 6)	PHASE/ NEUTRAL	EGC/ IEGC (NOTE 9)	GEC/SSBJ (NOTE 8)	AMPACITY
		3 PH 3 W	3 PH 4W	3 PH or 1 PH 3W EGC	3 PH 4W EGC	3 PH 4W EGC/IEGC	3 PH 4W EGC	3 PH 4W EGC/IEGC	1 PH 2W EGC				
15	1	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	12	12	8	20
20	1	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	12	12	8	20
25	1	3/4	3/4	3/4	3/4	3/4	1	1	3/4	10	10	8	30
30	1	3/4	3/4	3/4	3/4	3/4	1	1	3/4	10	10	8	30
35	1	3/4	3/4	3/4	1	1	1	1-1/4	3/4	8	10	8	40
40	1	3/4	3/4	3/4	1	1	1	1-1/4	3/4	8	10	8	40
45	1	* 3/4	1	1	1	1	1-1/4	1-1/4	3/4	6	10	8	55
50	1	* 3/4	1	1	1	1	1-1/4	1-1/4	3/4	6	10	8	55
60	1	* 1	1-1/4	1	1-1/4	1-1/4	1-1/4	2	1	4	10	8	70
70	1	* 1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	2	1	4	8	8	70
80	1	1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	2	1	3	8	8	85
90	1	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	2	2	1	2	8	8	95
100	1	* 1-1/4	1-1/2	1-1/2	1-1/2	2	2	2-1/2	1-1/4	1	8	6	110
110	1	* 1-1/4	1-1/2	1-1/2	1-1/2	2	2	2-1/2	1-1/4	1	6	6	110
125	1	* 1-1/2	2	1-1/2	2	2	2	3	1-1/4	1/0	6	6	150
150	1	* 1-1/2	2	1-1/2	2	2	2	3	1-1/4	1/0	6	6	150
175	1	1-1/2	2	2	2	2	2-1/2	3	1-1/2	2/0	6	4	170
200	1	2	2	2	2	2-1/2	3	3-1/2	1-1/2	3/0	6	4	200
225	1	* 2	2-1/2	2	2-1/2	2-1/2	(NOTE 7)	(NOTE 7)	2	4/0	4	2	230
250	1	2	2-1/2	2-1/2	3	3	(NOTE 7)	(NOTE 7)	2	250	4	2	255
300	1	* 2-1/2	3	3	3	3	(NOTE 7)	(NOTE 7)	2	350	4	2	310
350	1	* 3	3-1/2	3	3-1/2	3-1/2	(NOTE 7)	(NOTE 7)	2-1/2	500	3	1/0	380
400	1	* 3	3-1/2	3-1/2	4	4	(NOTE 7)	(NOTE 7)	3	600	3	1/0	420
450	2	* 2	2-1/2	2	2-1/2	2-1/2	(NOTE 7)	(NOTE 7)	2	4/0	2	1/0	460
500	2	2	2-1/2	2-1/2	3	3	(NOTE 7)	(NOTE 7)	2	250	2	1/0	510
600	2	* 2-1/2	3	3	3	3	(NOTE 7)	(NOTE 7)	2-1/2	350	1	2/0	620
700	2	* 3	3-1/2	3	3-1/2	3-1/2	(NOTE 7)	(NOTE 7)	2-1/2	500	1/0	2/0	760
800	2	* 3	3-1/2	3-1/2	4	4	(NOTE 7)	(NOTE 7)	3	600	1/0	3/0	840

CIRCUIT SIZE AMPS	QTY SETS	CONDUIT TRADE SIZE (NOTE 2)								CONDUCTORS (NOTE 1) (NOTE 3)			
		NONE (NOTE 5)	N	G (NOTE 4)	NG	NGI	NNG	NNGI	GS (NOTE 6)	PHASE/ NEUTRAL	EGC/ IEGC (NOTE 9)	GEC/ SSBJ (NOTE 8)	AMPACITY
		3 PH 3 W	3 PH 4W	3 PH or 1 PH 3W EGC	3 PH 4W EGC	3 PH 4W EGC/IEGC	3 PH 4W EGC	3 PH 4W EGC/IEGC	1 PH 2W EGC				
1000	4	2	2-1/2	2-1/2	3	3	(NOTE 7)	(NOTE 7)	2	250	2/0	2/0	1020
1200	4	* 2-1/2	3	3	3	3-1/2	(NOTE 7)	(NOTE 7)	2-1/2	350	3/0	3/0	1240
1600	4	* 3	3-1/2	3-1/2	4	4	(NOTE 7)	(NOTE 7)	3	600	4/0	300	1680
2000	6	2-1/2	3	3	3-1/2	3-1/2	(NOTE 7)	(NOTE 7)	2-1/2	400	250	300	2010
2500	6	* 3	3-1/2	3-1/2	4	5	(NOTE 7)	(NOTE 7)	3	600	350	400	2520
3000	8	* 3	3-1/2	3-1/2	3-1/2	4	(NOTE 7)	(NOTE 7)	3	500	400	500	3040
4000	10	* 3	3-1/2	3-1/2	4	5	(NOTE 7)	(NOTE 7)	3	600	500	** 600	4200
5000	12	* 3	3-1/2	3-1/2	4	5	(NOTE 7)	(NOTE 7)	3	600	** 600	** 600	5040

NOTE 1 THE RACEWAY FILL CALCULATIONS HAVE BEEN PERFORMED USING INSULATION TYPE THHN
DIMENSIONS ARE FROM NEC CH. 9, TABLES 4 AND 5. THE EGC/IEGC INSULATION IS THE SAME AS IT IS FOR THE PHASE/NEUTRAL CONDUCTORS

NOTE 2 CONDUIT SIZE IS BASED ON SCHEDULE 80 PVC.
NOTE 3 CONDUCTOR SIZES ARE LIMITED TO 1/0 AWG THROUGH 600 KCMIL, AND ARE BASED ON:
60 DEG C TERMINALS FOR CIRCUITS RATED 100 AMPS OR LESS. 75 DEG C TERMINALS FOR ALL OTHER SIZES.
NOTE 4 FOR THREE WIRE SINGLE PHASE FEEDERS AND BRANCH CIRCUITS, USE THIS COLUMN.
NOTE 5 FOR SINGLE PHASE SERVICES, USE THIS COLUMN

NOTE 6 FOR TWO WIRE SINGLE PHASE FEEDERS AND BRANCH CIRCUITS, USE THIS COLUMN.
NOTE 7 FOR LARGE FEEDERS REQUIRING 200% RATED NEUTRALS, SEE ONELINE DIAGRAM FOR SPECIFIC CONDUIT AND CONDUCTOR SIZES AND QUANTITIES
NOTE 8 USE THIS COLUMN FOR SIZING SEPERATELY DERIVED SYSTEMS GROUNDING CONDUCTORS, [NEC TABLE 250.66] AND FOR SIZING GROUNDING ELECTRODE CONDUCTORS [NEC TABLE 250.122].
NOTE 9 USE THIS COLUMN FOR SIZING EQUIPMENT GROUNDING CONDUCTORS (NEC TABLE 250.122]
WHERE THIS COLUMN IS USED, VERIFY ADEQUATE CONDUIT SIZING FOR INCREASED GROUND CONDUCTOR SIZING
* CONSIDER INCREASING THE RACEWAY BY ONE TRADE SIZE TO PREVENT POSSIBLE JAMMING [NEC CHAPTER 9, TABLE 1, INFORMATIONAL NOTE 2
** THE EGC IS NOT REQUIRED TO BE LARGER IN SIZE THAN THE CIRCUIT CONDUCTORS [NEC 250.122(A)

SUBSCRIPT	CIRCUIT IDENTIFICATION KEY
NONE	(3) PHASE CONDUCTORS, (0) EGC OF THE WIRE TYPE.
N	(3) PHASE CONDUCTORS, (1) NEUTRAL CONDUCTOR, (0) EGC OF THE WIRE TYPE.
NN	(3) PHASE CONDUCTORS, (200% RATED) NEUTRAL CONDUCTOR, (0) EGC OF THE WIRE TYPE.
G	(3) PHASE CONDUCTORS, (1) EGC
NG	(3) PHASE CONDUCTORS, (1) NEUTRAL CONDUCTOR, (1) EGC
NNG	(3) PHASE CONDUCTORS, (200% RATED) NEUTRAL CONDUCTOR, (1) EGC
NGI	(3) PHASE CONDUCTORS, (1) NEUTRAL CONDUCTOR, (1) EGC, (1) ISOLATED EGC (IEGC)
NNGI	(3) PHASE CONDUCTORS, (200% RATED) NEUTRAL CONDUCTOR, (1) EGC, (1) ISOLATED EGC (IEGC)
GS	(1) PHASE CONDUCTORS, (1) NEUTRAL CONDUCTOR, (1) EGC
EGC/IEGC	(1) EQUIPMENT GROUNDING CONDUCTOR/ISOLATED EQUIPMENT GROUNDING CONDUCTOR
GEC/SSBJ	(1) GROUNDING ELECTRODE CONDUCTOR/ISOLATED EQUIPMENT GROUNDING CONDUCTOR

KEY NOTES

1. ALL EQUIPMENT SHOWN ON ONE-LINE IS EXISTING UNLESS OTHERWISE NOTED.
2. SPLICE AND EXTEND EXISTING FEEDER FROM EXISTING PANELBOARD LOCATION TO NEW LOCATION. SEE SHEET EP101 FOR EXISTING AND NEW PANELBOARD LOCATIONS.
3. PROVIDE NEW CIRCUIT BREAKERS IN PANELBOARD AS REQUIRED PER PANEL SCHEDULE FOR NEW BRANCH CIRCUITS.

L2D (EXISTING TO BE RELOCATED) (3)

MOUNTING FLUSH
VOLTS 208Y/120V 3P 4W
BUS AMPS 100
NEUTRAL 100%
MAIN MLO
LUGS STANDARD
AIC 42,000
NOTE 1
NOTE 2

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	20/1	[EXISTING LOAD] RM 203 FLOOR - RECEP	0.18			2	20/1	LIGHTING	1.3		
3	20/1	[EXISTING LOAD] RM 203 FLOOR - RECEP		0.18		4	20/1	SPARE		0	
5	20/1	[EXISTING LOAD] RM 203 FLOOR - CEILING			0.18	6	20/1	[EXISTING LOAD] RM 203 WALLS- RECEP			0.18
7	20/1	[EXISTING LOAD]	0.18			8	20/1	[EXISTING LOAD] RM 203 WALLS- RECEP	0.18		
9	20/1	[EXISTING LOAD] RM 203 WALLS - RECEP		0.18		10	20/1	[EXISTING LOAD]		1	
11	20/1	[EXISTING LOAD]			0	12	20/1	[EXISTING LOAD]			1
13	20/1	RECEPTACLE	0.18			14	20/1	RECEPTACLE	0.18		
15	20/1	RECEPTACLE		0.18		16	20/1	RECEPTACLE		0.18	
17	20/1	RECEPTACLE			0.18	18	20/1	RECEPTACLE			0.18
19	20/1	RECEPTACLE	0.18			20	20/1	RECEPTACLE	0.18		
21	20/1	RECEPTACLE		0.18		22	20/1	RECEPTACLE		0.18	
23	20/1	RECEPTACLE			0.18	24	20/1	RECEPTACLE			0.18
25	20/1	RECEPTACLE	0.18			26	20/1	RECEPTACLE	0.18		
27	20/1	RECEPTACLE		0.18		28	20/1	RECEPTACLE		0.18	
29	20/1	RECEPTACLE			0.18	30	20/1	RECEPTACLE			0.18
								TOTAL CONNECTED KVA BY PHASE	1.8	2.6	2.4
								TOTAL CONNECTED AMPS BY PHASE	15	22	20
								TOTAL AMPS PERCENTAGE BY PHASE			

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	6.9	6.9	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
COMPUTER	0	0	(100%)	NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	6.9	6.9	

BALANCED THREE PHASE AMPS 19

L2F (EXISTING TO BE RELOCATED) (3)

MOUNTING FLUSH
VOLTS 208Y/120V 3P 4W
BUS AMPS 100
NEUTRAL 100%
MAIN MLO
LUGS STANDARD
AIC 42,000
NOTE 1
NOTE 2

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	20/1	[EXISTING LOAD]	0.36			2	20/1	[EXISTING LOAD]	0.36		
3	20/1	[EXISTING LOAD]		0.36		4	20/1	[EXISTING LOAD]		0.36	
5	20/1	[EXISTING LOAD]			0.36	6	20/1	[EXISTING LOAD]			0.36
7	20/1	[EXISTING LOAD]	0.36			8	20/1	[EXISTING LOAD]	0.36		
9	20/1	[EXISTING LOAD]		0.36		10	20/1	[EXISTING LOAD]		0.36	
11	20/1	[EXISTING LOAD]			0.36	12	20/1	[EXISTING LOAD]			0.36
13	20/1	[EXISTING LOAD]	0.36			14	20/1	[EXISTING LOAD]	0.36		
15	20/1	[EXISTING LOAD]		0.36		16	20/1	[EXISTING LOAD]		0.36	
17	20/1	[EXISTING LOAD]			0.36	18	20/1	[EXISTING LOAD]			0.36
19	20/1	[EXISTING LOAD]	0.36			20	20/1	RECEPTACLE	0.18		
21	20/1	[EXISTING LOAD]		0.36		22	20/1	RECEPTACLE		0.18	
23	30/1	RECEP			0.72	24	20/1	RECEPTACLE			0.36
25	20/1	RECEP	1.1			26	20/1	RECEPTACLE	0.36		
27	20/1	RECEP		0.72		28	20/1	RECEPTACLE		0.18	
29	20/1	RECEP			0.72	30	20/1	RECEP			0.72
								TOTAL CONNECTED KVA BY PHASE	4.1	3.6	4.7
								TOTAL CONNECTED AMPS BY PHASE	35	30	39
								TOTAL AMPS PERCENTAGE BY PHASE			

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	0	0	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	12	11	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
COMPUTER	0	0	(100%)	NONCOIN/DIVERSE	0	0	(N/A)
				TOTAL KVA	12	11	

BALANCED THREE PHASE AMPS 31

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REVISIONS

1	06-11-2025 IDOPL REVIEW
2	07-31-2025 ADDENDUM 2

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DATE
06/04/25

SHEET NAME
ONE-LINE DIAGRAM AND ELECTRICAL SCHEDULES

SHEET
E-601