# **LEGEND**

☐ 1A-6 CEILING MOUNTED LUMINAIRE TYPE 'A', CONNECTED TO PANEL '1A', CIRCUIT #6

WALL MOUNTED LUMINAIRE

SELF-POWERED EXIT SIGN FIXTURE WALL OR CEILING MOUNTED - ARROWS INDICATES DIRECTIONS, SHADED AREA DENOTES FACE.

MODULAR CONTROL PANEL

\$ LIGHT SWITCH WITH OCCUPANCY SENSOR MANUAL OVERRIDE

(S) CEILING OCCUPANCY SENSOR SWITCH

15A, 125V DUPLEX RECEPTACLE

15A, 125V DUPLEX GROUND FAULT INTERRUPTER RECEPTACLE.

FIRE ALARM SMOKE DETECTOR, CEILING MOUNTED

SH FIRE ALARM VISUAL DEVICE

FIRE ALARM AUDIBLE DEVICE

TELEPHONE OUTLET. 3/4" CONDUIT TO NEAREST IT RACK. INCLUDE CAT6E DATA CABLE.

DATA OUTLET. 3/4" CONDUIT TO NEAREST IT RACK. INCLUDE CAT6E DATA CABLE.

W WIRELESS ACCESS POINTS.

PA PUBLIC ADDRESS SPEAKER

WALL RECESSED OR WALL MOUNTED ELECTRICAL PANEL BOARD.

LUMINAIRE SCHEDULE						
TYPE	DESCRIPTION	CATALOGUE NO.	VOLTAGE	DRIVER	SUPPLIED	
L1	2'X4' LED CEILING RECESSED LUMINAIRE	STANPRO LIGHTING: #L3PNF (ORDER CODE 69436). SWITCH TO 35K OR APPROVED EQUAL	347V	347V LED DRIVER	CONTRACTOR	
L2	2'X2' LED CEILING RECESSED LUMINAIRE	STANPRO LIGHTING: #L3PNF (ORDER CODE 69435). SWITCH TO 35K OR APPROVED EQUAL	347V	347V LED DRIVER	CONTRACTOR	
L3	1'X2' LED CEILING RECESSED LUMINAIRE	STANPRO LIGHTING: #L3PNF (ORDER CODE 69434). SWITCH TO 35K OR APPROVED EQUAL	347V	347V LED DRIVER	CONTRACTOR	

	ABBREVIATIONS
R	REMOVE (DEMOLISH)
EX	EXISTING TO REMAIN
С	CEILING MOUNTED
GFI	GROUND FAULT INTERRUPTER
IR	INFARED SENSOR
HD	HAND DRYER
1	NOTE (GENERAL OR SPECIFIC)
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REFER TO DETAIL #1 ON DRAWING EXXX

#### NOTES FOR ENTIRE DRAWING PACKAGE:

- (1) CONTRACTOR SHALL SUPPLY AND INSTALL EVERYTHING SHOWN OR MENTIONED IN THE ELECTRICAL DESIGN DRAWINGS AND ELECTRICAL SPECIFICATIONS
- (2) CONTRACTOR TO WIRE ALL DEVICES SHOWN IN THIS DRAWINGS PACKAGE TO THE CIRCUIT AND PANEL MENTIONED ON DEVICE. IF NUMBER IS MISSING, OR CIRCUIT UNCLEAR, CONTRACTOR TO REPORT TO ENGINEER AND ASSUME WIRE AND FEED FOR THAT DEVICE FROM NEAREST AVAILABLE PANEL (AT CONTRACTOR DISCRETION). NO EXTRAS SHALL BE ENTERTAINED FOR RELATED MATTERS.
- CONTRACTOR TO READ THESE DRAWINGS CAREFULLY AND IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS. ENSURE FULL COORDINATION PRIOR TO ANY ROUGH-INS.
- <4> CONTRACTOR SHALL COORDINATE MOUNTING HEIGHTS OF ALL RECEPTACLES WITH MILLWORK, ARCHITECTURAL DRAWINGS, AND INTERIOR DESIGN DRAWINGS PRIOR TO ANY ROUGH INS.
- (5) CONTRACTOR SHALL PERFORM A THOROUGH SITE VISIT TO GET ACCUSTOMED TO SITE CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. CARRY FOR ALL REQUIRED MATERIAL AND LABOUR FOR A FULLY FUNCTIONAL INSTALLATION AS PER DESIGN DRAWINGS AND DESCRIPTIONS HEREIN MENTIONED.
- (6) CONTRACTOR SHALL DEMOLISH ALL UNUSED/REDUNDANT ELECTRICAL DEVICES IN AREA UNDER RENOVATION AND INSTALL ALL NEW DEVICES.
- (7) ALL WIRING AND CABLES FOR DEMOLISHED DEVICES SHALL ALSO BE DEMOLISHED. TRACE CIRCUIT BACK TO SOURCE AND LABEL CIRCUIT AS SPARE (IF APPLICABLE).
- (8) ALL WIRING SHALL BE NEW.

	DRAWING LIST	
DRAWING NO.	TITLE	SCALE
E1	LEGEND, DRAWING LIST, SCHEDULES, & SPECIFICATIONS	N.T.S.
E2	KEY PLAN & SCOPE OF WORK	1/16"
E3	PART SECOND FLOOR PLAN — ELECTRICAL LAYOUT	1/4"

EXIT SIGN, BATTERY UNIT, + REMOTE HEAD SCHEDULE						
TYPE	DESCRIPTION	VOLTAGE/PHASE	CATALOGUE NO.			
	WALL MOUNTED EXIT SIGN. ARROWS INDICATE DIRECTIONS, SHADED AREA DENOTES FACE. "EXIT" TYPE. SELF POWERED.	347V	BELUCE MICRA EXIT #MC-E-L-R-W OR APPROVED EQUAL			

# ELECTRICAL SPECIFICATIONS

#### GENERAL CONDITIONS

- A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LABOUR, MATERIAL, TOOLS, EQUIPMENT, ETC. REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. THE WORK SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS OF ALL AUTHORITIES HAVING LEGAL JURISDICTION OVER THE WORK. THIS CONTRACTOR SHALL PROVIDE ANY SMALL ITEMS OF WORK NOT SPECIFICALLY CALLED FOR BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION.
- B. THE CONSULTANT RESERVES THE RIGHT TO APPROVE THE QUALITY OF MATERIAL AND WORKMANSHIP, ALSO TO CALL FOR ANY TESTS WHICH ARE DEEMED NECESSARY DURING THE PROGRESS OF THE WORK AND A COMPLETE TEST OF EACH SYSTEM AT THE COMPLETION OF THE WORK. THE COST OF SUCH TESTS ARE NOT TO BE CONSIDERED AS EXTRAS.

#### 2. <u>SCOPE OF WORK</u>

THE WORK SHALL CONSIST OF, BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

A. ALL NECESSARY CONDUIT WIRING AND CONNECTIONS FOR A COMPLETE INSTALLATION. B. LIGHTING AND POWER DISTRIBUTION SYSTEM AS SHOWN ON DRAWINGS.

#### CODES, PERMITS AND INSPECTION

- A. OWNERSHIP SHALL APPLY FOR AND PAY FOR THE PERMIT. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL OBTAIN ALL SUPPLEMENTARY PERMITS (ESA), INSPECTIONS, ETC. AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION OVER THIS WORK AND SHALL PAY FOR SAME. THESE COSTS SHALL BE INCLUDED IN THE TENDER PRICE.
- B. ALL PERMITS SHALL BE DELIVERED TO THE OWNER REPRESENTATIVE AS SOON AS THEY BECOME AVAILABLE.
- C. ALL VERIFICATION REPORTS SHALL BE SUBMITTED TO CONSULTANT AND OWNER.

#### 4. <u>DRAWINGS</u>

THIS CONTRACTOR SHALL PREPARE, AT HIS OWN EXPENSE, ANY LARGE SCALE WORKING DRAWINGS WHICH MAY BE REQUIRED BY THE EXAMINING AUTHORITIES.

#### AS-BUILT DRAWINGS

THIS CONTRACTOR SHALL KEEP A SEPARATE SET OF WHITE PRINTS ON THE SITE AND NOTE ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL DESIGN. TWO SETS OF THESE PLANS ALONG WITH UPDATED AUTOCAD DRAWINGS SHOWING ALL AS-BUILT CONDITIONS SHALL BE FORWARDED TO THE CONSULTANT AT THE COMPLETION OF THIS CONTRACT BEFORE APPLYING FOR FINAL PAYMENT.

#### 6. <u>SHOP DRAWINGS</u>

SUBMIT ONE (1) ELECTRONIC AND ONE (1) HARD COPIES OF MANUFACTURER'S SHOP DRAWINGS FOR ALL DEVICES, SYSTEMS AND SUCH FOR REVIEW BY THE CONSULTANT. CLEARLY MARK ALL APPLICABLE OPTIONS ON THESE SHOP DRAWINGS.

#### 7. <u>EXAMINATION OF SITE</u>

- A. THIS CONTRACTOR SHALL VISIT THE SITE OF THE PROJECT AND FAMILIARIZE THEMSELVES WITH THE SPECIFIC SITE CONDITIONS.
- B. ANY DEVIATION AND / OR CONFLICTS ON SITE SHALL BE REPORTED TO THE CONSULTANT PRIOR TO SUBMITTING TENDER.

### CONSTRUCTION SCHEDULE

THIS CONTRACTOR SHALL SCHEDULE AND PERFORM HIS WORK TO MEET THE COMPLETION SCHEDULE AS SET OUT BY THE GENERAL CONTRACTOR AND THE OWNER'S REPRESENTATIVE.

#### REVISIONS AND EXTRAS

NO ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED BY THE CONSULTANT. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC.

THERE SHALL BE NO EXTRA CLAIM FOR RELOCATION OF ANY EQUIPMENT/DEVICE WITHIN 10 FEET FROM ORIGINAL LOCATION.

# <u>CLEAN UP</u>

THIS CONTRACTOR SHALL BE RESPONSIBLE TO PERIODICALLY REMOVE ALL DEBRIS AND TO KEEP THIS AREA CLEAN AT ALL TIMES. CLEAN ALL LUMINAIRES, PANELBOARDS UPON COMPLETION OF

#### CUTTING AND PATCHING

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, OPENINGS, ETC. AND SHALL INFORM THE GENERAL CONTRACTOR OF SLEEVES OR OPENINGS REQUIRED DURING TENDERING SO THAT COSTS ARE INCLUDED.

#### DELIVERY DATES

THIS CONTRACTOR SHALL PLACE AN ORDER FOR ALL MATERIAL AND EQUIPMENT IMMEDIATELY AFTER SIGNING OF THE CONTRACT. HE SHALL SUBMIT A LIST OF DELIVERY DATES FOR EACH TYPE OF EQUIPMENT WITHIN 30 DAYS OF THE AWARDING OF THE CONTRACT. THE LIST SHALL INCLUDE MANUFACTURER'S NAMES.

## 13. <u>EQUIPMENT AND MATERIAL</u>

GROUNDING SHALL BE AS REQUIRED BY ELECTRICAL CODE AND THE APPROVAL OF ALL EQUIPMENT AND MATERIAL UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL MATERIAL AND EQUIPMENT SHALL BE OF THE TYPE SUBJECT TO FACTORY MUTUAL, U.L.C. OR C.S.A. INSPECTION AND APPROVAL" AND SHALL BEAR "U.L.C." OR "C.S.A." LABELS.

#### CLOSE-OUT

DEMONSTRATE THE FUNCTION AND OPERATION OF EACH SYSTEM IN MAINTENANCE STAFF, OWNER AND CONSULTANT PRESENCE. CO-ORDINATE COMMISSIONING AND TRAINING SCHEDULE WITH ALL PROVIDE THE FOLLOWING DOCUMENTS AT PROJECT COMPLETION:

- AS BUILT DRAWING AS DESCRIBED ABOVE - ELECTRICAL INSPECTION REPORT FIRE ALARM VERIFICATION REPORT AND CERTIFICATE WARRANTY LETTER

## <u>IDENTIFICATION</u>

PROVIDE LAMACOID IDENTIFICATION NAMEPLATES WHERE APPLICABLE. THESE SHALL BE BLACK WITH WHITE ENGRAVED LETTERS AND SHALL BE INSTALLED WITH SCREWS ON ALL EQUIPMENT, DISCONNECT SWITCHES. PANELS. ETC. INDICATING THE LOAD SERVED. EACH LIGHTING PANEL SHALL HAVE A TYPEWRITTEN DIRECTORY SHOWING LIGHTS OR EQUIPMENT CONNECTED TO EACH CIRCUIT. DIRECTORIES SHALL BE MOUNTED ON THE INSIDE OF THE PANEL DOOR WITH A TRANSPARENT PLASTIC COVER.

# 16. COORDINATION

THIS CONTRACTOR SHALL BE RESPONSIBLE TO CO-ORDINATE THE INSTALLATION OF EQUIPMENT, CONDUIT WORK, LIGHTING FIXTURES, ETC. WITH OTHER TRADES PRIOR TO THE ACTUAL INSTALLATION.

### 7. ACCESSIBILITY

ALL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATION. MAINTENANCE AND REPAIRS.

THIS TRADE SHALL BE RESPONSIBLE FOR THIS WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE, FOR REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.

THIS CONTRACTOR SHALL WARRANT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT, AGAINST ALL DEFECTS OR WORKMANSHIP AND MATERIAL FOR A PERIOD OF TWO (2) YEARS AFTER ACCEPTANCE OF THE INSTALLATION BY THE OWNER.

#### 20. CONDUIT AND FITTINGS

- A. CONDUIT SIZES SHALL BE AS INDICATED ON THE DRAWINGS AND SHALL NOT BE REDUCED IN SIZE WITHOUT AUTHORIZATION. CONDUIT IN FINISHED AREA SHALL BE CONCEALED. ALL CONDUIT SHALL BE INSTALLED PARALLEL TO BUILDING LINES. MAKE FINAL CONNECTIONS TO VIBRATING EQUIPMENT WITH FLEXIBLE CONDUIT.
- B. CONDUITS SHALL BE INSTALLED AT A MINIMUM OF 6" (152MM) FROM UNINSULATED HEATING PIPES.
- C. CLEAN INTERIOR OF ALL CONDUITS TO REMOVE WATER AND DEBRIS BEFORE PULLING
- D. BX CABLES SHALL BE USED ONLY FOR FINAL SHORT CONNECTIONS BETWEEN OUTLET AND OUTLET BOX IN CEILING SPACE TO CEILING MOUNTED LIGHTING FIXTURES OR TO FEED OUTLETS, RECEPTACLES IN THE DRYWALL PARTITIONS. BX CABLES ARE NOT ALLOWED TO RUN IN THE OPEN CEILING AREAS.

#### I. PULL AND JUNCTION BOXES

- A. BOXES SHALL BE CODE GAUGE AND SIZES TO MEET THE ELECTRICAL CODE REQUIREMENTS. SHEET STEEL BOXES FOR CONCEALED WORK AND CAST BOXES FOR
- B. PROVIDE BARRIERS IN BOXES WHERE DIFFERENT VOLTAGES ARE USED.
- C. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUIT. 22. <u>INSTALLATION OF OUTLETS</u>
- A. THE PLANS SHOW APPROXIMATE LOCATION OF OUTLETS, EXACT LOCATION SHALL BE CO-ORDINATED ON THE SITE WITH OTHER TRADES, ARCHITECTURAL PLANS, ETC. OUTLETS INACCURATELY LOCATED SHALL BE RE-ADJUSTED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. REFER TO ARCHITECT DRAWINGS FOR HEIGHT OF VARIOUS DEVICES.

#### 23. <u>WIRE AND CABLE</u>

- A UNLESS OTHERWISE NOTED, ALL WIRES SHALL BE COPPER R90, RW90, RA90 OR RWU90 RATING AS REQUIRED ON SITE AND AS DICTATED BY CODE. ALUMINUM WIRE SHALL NOT
- B. THE MINIMUM PERMISSIBLE SIZE FOR BRANCH CIRCUIT WIRING SHALL BE #12 (20m). EXCEPT FOR EMERGENCY LIGHTING SYSTEM SHALL BE MIN. #10.
- C. FOR BRANCH WIRING EXCEEDING 100 FEET (30.5M) TO FURTHEST OUTLET FROM A PANEL
- SHALL BE #10 AT 120 VOLTS. D. WIRES AND CABLES SHALL BE RATED AT 600 VOLTS EXCEPT FOR LOW VOLTAGE CONTROL
- E. ALL WIRES SHALL BE NEW AND DELIVERED TO THE SITE OF THE PROJECT IN THEIR ORIGINAL PACKING. WIRES #10 AND BIGGER SHALL BE STRANDED. THIS DENOTES GAUGE #8, #6, #4, ETC. WIRES SHALL BE FACTORY IDENTIFIED, SHOWING SIZE, VOLTAGE RATING AND INSULATION TYPE.
- F. PROVIDE SEPARATE INSULATED GROUND CONDUCTOR FOR EACH FEEDER AND BRANCH CIRCUIT.
- G. FINAL CONNECTIONS TO LUMINAIRES SHALL ORIGINATE FROM AN OUTLET BOX. CONNECTIONS OF FIXTURE BODY TO FIXTURE BODY SHALL NOT BE ACCEPTABLE.
- H. CODE APPROVED WIRE SHALL BE USED FOR FINAL LUMINAIRE OR APPLIANCE CONNECTIONS.

### 24. <u>CONNECTORS FOR WIRES</u>

PROVIDE AN APPROVED TYPE WIRE CONNECTOR.

WIRING WHICH SHALL BE RATED AT 300V.

25. POWER DISTRIBUTION SYSTEM

THE POWER DISTRIBUTION SYSTEM SHALL BE AS SHOWN ON THE PLANS AND AS HEREINAFTER SPECIFIED. 26. <u>WIRING DEVICES</u>

- A. DUPLEX RECEPTACLES SHALL BE GROUNDING TYPE MINIMUM RATED FOR 15A. 125V, SPECIFICATION GRADE. THESE SHALL HAVE BREAK-OFF LINE TO ALLOW FOR SPLIT WIRING OR 2 CIRCUITS AND SHALL BE EQUAL TO P&S 26252 SERIES OR HUBBELL CAT #5252 OR APPROVED EQUAL, WHITE COLOR C/W STAINLESS STEEL COVER PLATE.
- B. COVER-PLATES SHALL BE STAINLESS STEEL. VERIFY COLOURS OF ALL DEVICES WITH ARCHITECT PRIOR TO ORDERING.

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No.	Revisions	Date
1	ISSUED FOR REVIEW	2024-03-1
2	ISSUED FOR TENDER	2024-04-2
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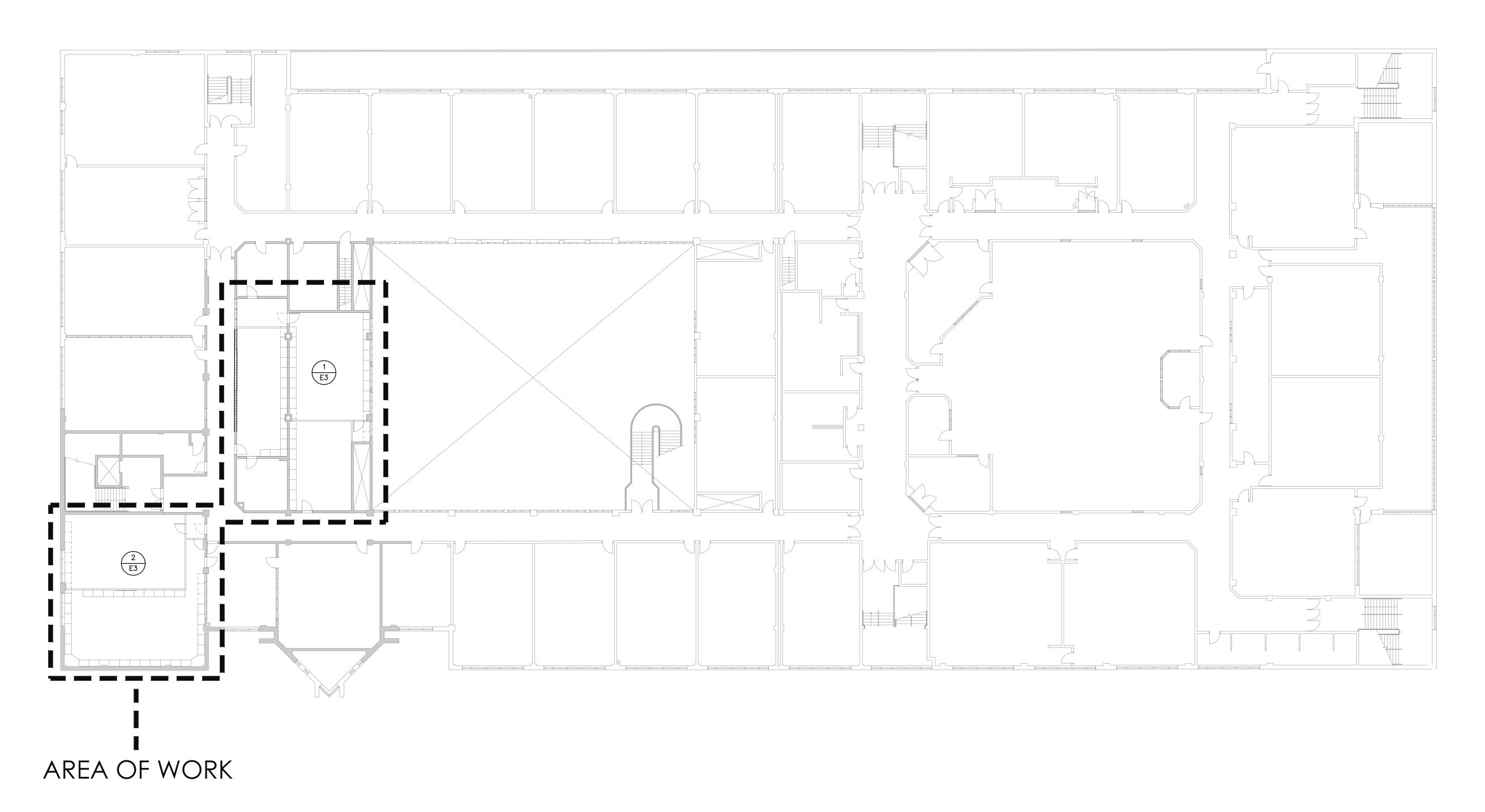
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& SPECIFICATIONS

SCHEDULES,



SECOND FLOOR - KEY PLAN & SCOPE OF WORK

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

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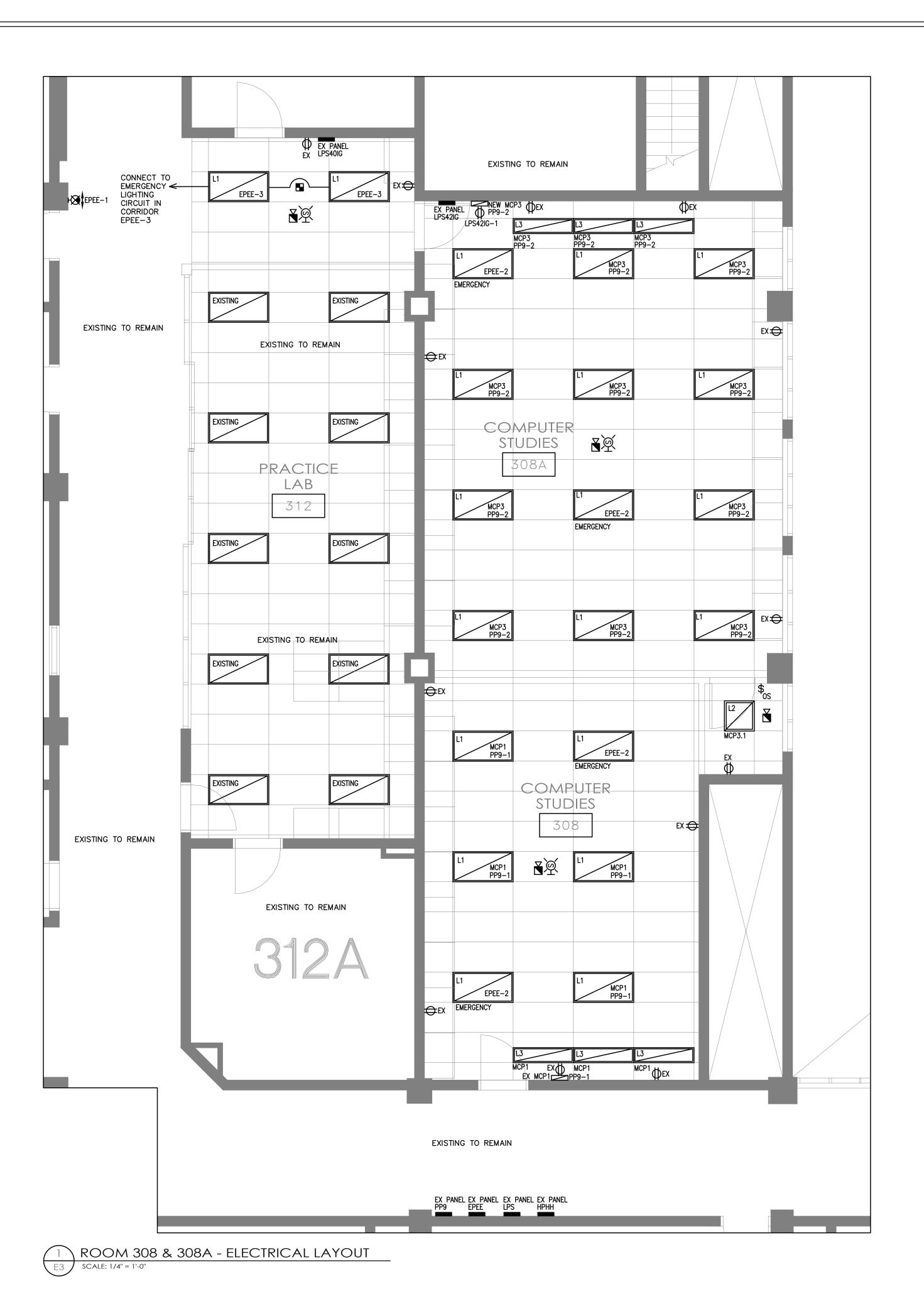
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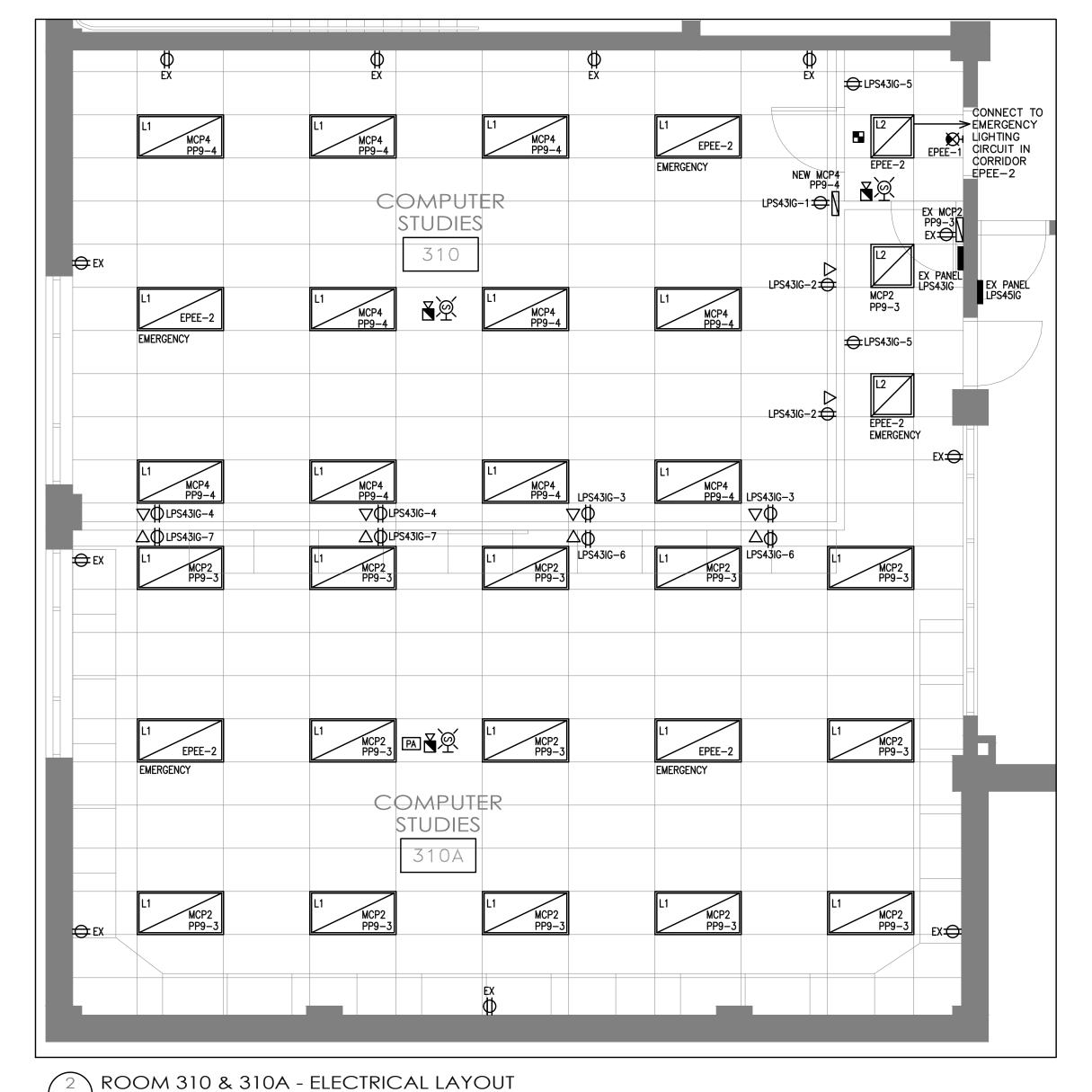
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KEY PLAN & SCOPE OF WORK

E2





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

# NOTES:

1) MODULAR CONTROL PANELS SHALL CONTAIN THE FOLLOWING:

- LIGHT SWITCH (347V)
- TELEPHONE OUTLET SPEAKER
- CALL SWITCH CLOCK TEMPERATURE SENSOR
- RECEPTACLE (120V)

MODULAR CONTROL PANELS PROVIDED SHALL BE OF THE SAME SYSTEM OF THE EXISTING MODULAR CONTROL PANELS OR APPROVED EQUAL MODELS. VERIFY ON SITE FOR EXACT UNITS/MODELS. PROVIDE ALL DEVICES C/W ALL WIRING AND WORK REQUIRED PER EXISTING MODULAR CONTROL PANELS.

- PROVIDE ALL NEW FIRE ALARM SMOKE DETECTORS AND NEW FIRE ALARM AUDIBLE/VISUAL DEVICES AS SHOWN. CONTRACTOR SHALL ENSURE COMPATIBILITY WITH EXISTING FIRE ALARM SYSTEM PRIOR TO ORDERING ANY DEVICE. PROVIDE SAME MANUFACTURER OF DEVICES AS BASE BUILDING FIRE ALARM SYSTEM MANUFACTURER. COORDINATE WITH BUILDING FIRE ALARM SYSTEM MAINTAINER. ALL NEW DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH CAN-ULC. PROVIDE ALL REQUIRED MODIFICATIONS TO EXISTING SYSTEM. DEVICES TO BE TESTED, AND VERIFIED BY AUTHORIZED PARTY. PROVIDE VERIFICATION REPORT (PER CAN/ULC) TO CONSULTANT UPON COMPLETION.
- (3) MAINTAIN ALL EXISTING LIGHTING CIRCUITS AT THE CEILING SO THAT WHEN NEW CEILING AND LUMINAIRES ARE INSTALLED, THE LIGHTS CAN CONNECT TO EXISTING CIRCUITS ALREADY IN THE CEILING. ALL WIRING SHALL BE NEW. ENSURE EMERGENCY LIGHTS ARE FED FROM EMERGENCY PANEL EPEE
- A NEW EXIT SIGNS SHALL BE INSTALLED
- \$\sqrt{5}\$ PROVIDE EMERGENCY LIGHTING CIRCUIT FROM EXISTING EMERGENCY PANEL TO LIGHTS NOTED WITH "EMERGENCY" IN THE LIGHTING LAYOUT.
- 6 ALL LIGHTING IN THIS PROJECT SHALL BE RECESSED INTO THE CEILING.
- 7> PROVIDE SEPARATE PRICE IN TENDER TO RE-USE EXISTING LIGHTING (INSTALLED AT NEW LOCATIONS) ALONG WITH ADDITIONAL LIGHTING WHERE REQUIRED TO MEET QUANTITIES ON DESIGN DRAWINGS.

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