Upgrade Lighting to LED Joint Forces Reserve Center St. Louis, Missouri

ENGINEERING SERVICES INC.

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CONSULTING **ENGINEERS**

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OWNER:

STATE OF MISSOURI MICHAEL L. PARSON,

GOVERNOR

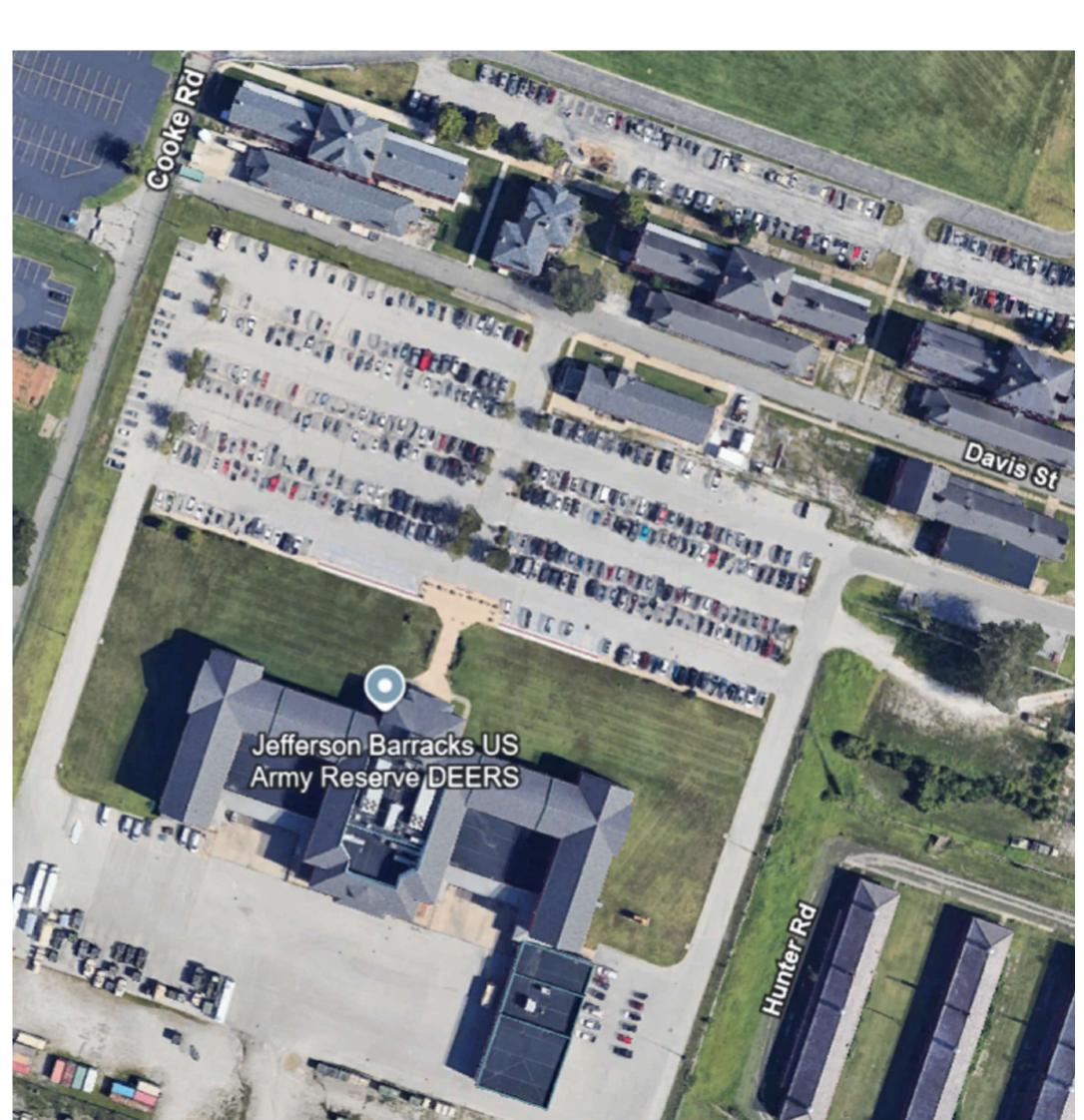
MISSOURI NATIONAL GUARD

PROJECT

OFFICE OF ADMINISTRATION

DIVISION OF FACILITIES MANAGEMENT, MANAGEMENT:

DESIGN AND CONSTRUCTION



DESIGNER: WEBB ENGINEERING SERVICES, INC.

PROJECT NUMBER: T2143-01

6303 SITE NUMBER:

FACILITY NUMBER: 8136303051

CODE STUDY

APPLICABLE CODES

ENVIRONMENTAL LIFE SAFETY CODE

1990 ADA STANDARDS FOR ACCESSIBLE DESIGN US ENVIRONMENTAL PROTECTION AGENCY (EPA) 2024 NFPA 101

BUILDING CODE: FIRE CODE: ELECTRICAL CODE:

2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC 2018 INTERNATIONAL FIRE PREVENTION CODE 2017 INTERNATIONAL ELECTRICAL CODE ENERGY CONSERVATION CODE: 2019 ASHRAE 90.1

AREA LOCATION PLAN - DEERS, BUILDING 24



SHEET NUMBER:



LIGHTING FIXTURE SCHEDULE						
PLAN MARK (TYPE)	NEW LED FIXTURE BASIS OF DESIGN MANUFACTURER/ CATALOG NO.	REMARKS	MIN. INITIAL LAMP LUMENS	MIN. COLOR REND. INDEX	CORR. COLOR TEMP. K°	
A	ABL-LITHONIA LIGHTING STAKS 2X4 ALO6 SWW7	2X4 LED LOW PROFILE, LOW GLARE CENTER-BASKET STYLE TROFFER WITH SWITCHABLE OUTPUT LEVEL & COLOR TEMPERATURE, 1.9" DEPTH, IC & DAMP LOCATION RATED WITH INTEGRAL T-BAR CLIPS, 120/277 VOLT DRIVER, DIMMING TO 10%, SATIN WHITE DIFFUSER.	5000	80	3500	
A2	ABL-LITHONIA LIGHTING STAKS 2X4 AL06 SWW7	SAME AS A FIXTURE WITH SLIGHTLY HIGHER LUMEN OUTPUT SELECTION USED IN SELECT OFFICES.	6000	80	3500	
А3	ABL-LITHONIA LIGHTING STAKS 2X4 AL06 SWW7	CLASSROOM FIXTURE. PROVIDE (2) ABL-nLIGHT NPODMA DX IV 3WAY DIMMER SWITCHES BY EACH DOOR AND NPP16 D EFP BAA REMOTE POWER SUPPLY ABOVE DROP CEILING	5000	80	3500	
A5	ABL-LITHONIA LIGHTING STAKS 2X4 AL06 SWW7	ASSEMBLY HALL AND SELECT OFFICES FIXTURE SAME FIXTURE AS A	5000	80	3500	
AEM	ABL-LITHONIA LIGHTING STAKS 2X4 AL06 SWW7 E10WLCP	SIMILAR TO A FIXTURE WITH 90 MINUTE EMERGENCY DRIVER FOR USE IN GENERAL AREAS IN GARAGE BLDG.	5000	80	3500	
В	ABL- LITHONIA LIGHTING FMSATL 16 208 40 BN	BRUSHED NICKEL TRIM CEILING MOUNT FIXTURE WITH 16" DIAMETER OPAL LENS	1682	80	4000	
C1	ABL-LITHONIA LIGHTING SBL4 6000LM 80CRI 35K MIN10 GZT MVOLT	4' LONG, 2 5/8" TALL, 8 5/8" WIDE LED WRAPAROUND FIXTURE PROVIDE WITH MOUNTING HARDWARE TO MATCH EXISTING CONFIGURATION	6000	80	3500	
C2	ABL-LITHONIA LIGHTING LBL4 6000LM 80CRI 35K MIN10 GZT MVOLT	4' LONG, 2 3/4" TALL, 10" WIDE LED WRAPAROUND FIXTURE PROVIDE WITH MOUNTING HARDWARE TO MATCH EXISTING CONFIGURATION	6000	80	3500	
C3	ABL-LITHONIA LIGHTING BLWP4 60L ADP GZ10 LP835	4' LONG, 3 1/2" TALL, 5 1/2" WIDE LED WRAPAROUND FIXTURE	6000	80	3500	
EM	ABL-LITHONIA LIGHTING ELM4L M12	PROVIDE WHITE, DUAL ADJUSTABLE HEAD EMERGENCY FIXTURE WITH MINIMUM 90 MINUTES OF NICKEL-CADMIUM BATTERY BACK-UP	N/A	N/A	N/A	
F1	ABL-LITHONIA LIGHTING CSS L48 AL03 MVOLT SWW3 80CRI	48" LONG LED STRIP LIGHT WITH SELECTABLE CCT AND LUMEN. SURFACE OR SUSPENSION MOUNTING AS NOTED ON PLANS	3851	80	3500	
F2	ABL-LITHONIA LIGHTING CLX L48 7000LM SEF FDL MVOLT GZ10 35K 80CRI WH	4' LONG, 2.72" TALL, 3.44" WIDE LED LOW PROFILE, ROUNDED LENS STRIP. PROVIDE MOUNTING TO MATCH EXISTING CONFIGURATION	7000	80	3500	
F3	ABL-LITHONIA LIGHTING CLX L48 7000LM SEF FDL MVOLT GZ10 35K 80CRI WH	SAME AS F2 FIXTURE, BUT IN STAGGERED STRIP ARRANGEMENT	7000	80	3500	
G	ABL-LITHONIA LIGHTING CLX L48 7000LM SEF FDL MVOLT GZ10 35K 80CRI WH	4' LONG, 2.72" TALL, 3.44" WIDE LED LOW PROFILE, ROUNDED LENS STRIP. PROVIDE MOUNTING TO MATCH EXISTING CONFIGURATION	7000	80	3500	
K1	GOTHHAM LIGHTING EV06SH 35/20 DFF SOL MVOLT EZ1	6" DOWNLIGHT FOR USE IN SHOWERS. PROVIDE WITH SHOWER TRIM RING WITH WHITE LENS.	1500	80	3500	
L1	ABL-LITHONIA LIGHTING LDN6 35/20 LO6 AR TRW LS MVOLT GZ10 GRA68 JZ	SAME AS K1 WITH HIGHER LUMENS PROVIDE WITH 8" MOUNTING RING FOR USE IN EXISTING 8" FIXTURE MOUNTING HOLE	2000	80	3500	
L2	ABL-LITHONIA LIGHTING LDN6 35/25 LO6 AR TRW LS MVOLT GZ10 GRA68 JZ	SAME AS L1 WITH HIGHER LUMENS PROVIDE WITH 8" MOUNTING RING FOR USE IN EXISTING 8" FIXTURE MOUNTING HOLE	2500	80	3500	
L3	ABL-LITHONIA LIGHTING LDN6 35/35 LO6 AR TRW LS MVOLT GZ10 GRA68 JZ	SAME AS L2 WITH HIGHER LUMENS PROVIDE WITH 8" MOUNTING RING FOR USE IN EXISTING 8" FIXTURE MOUNTING HOLE	3500	80	3500	
M 1	ABL-LITHONIA LIGHTING CLX L48 5000LM SEF WDL MVOLT GZ10 40K 80CRI WH	48" LONG, 5.27" WIDE, 4.01" TALL WHITE STEEL INDUSTRIAL STRIP FIXTURE WITH DIFFUSE LENS AND 12% UPLIGHT. PROVIDE MOUNTING TO MATCH EXISTING CONFIGURATION	5000	80	4000	
М1ЕМ	ABL-LITHONIA LIGHTING CLX L48 5000LM SEF WDL MVOLT GZ10 40K 80CRI E10WLCP SPD WH	SAME AS M1 WITH 10 WATT LINEAR EMERGENCY DRIVER AND 6KV SURGE PROTECTIVE DEVICE.	5000	80	4000	
N1	SOLAS RAY / 55 WEST LLC HTJM-050-50-120-PG-PM	HAZARDOUS LOCATION FIXTURE LISTED FOR CLASS 1, DIV 1, CLASS II DIV. 1&2, AND CLASS III DIV 1&2. PENDENT MOUNTED FROM STRUCTURE AT 8'-0" AFF	5000	80	5000	
R1EM	SOLAS RAY / 55 WEST LLC HTJM-050-50-120-PG-PM	SAME AS N1 FOR USE WITH ETR REMOTE LOCATED 12V EMERGENCY POWER UNIT. PENDANT MOUNTED AT 9'-0" AFF BOTTOM OF FIXTURE	5000	80	5000	
٧	ABL-LITHONIA LIGHTING TWPX2 LED P1 40K MVOLT DDBXD	DARK BRONZE LED WALL PACK PROVIDE WITH BIRD SPIKES	3150	N/A	4000	
V1	ANP LIGHTING BVF2002-CPS30W18T540K-WM1763	BLACK LED OUTDOOR PENDANT WITH 20" DIAMETER DIFFUSER, TYPE 5 OPTICS AND 42" TALL, 28 3/4" DEEP WALL MOUNT BRACKET. ALSO SEE GENERAL NOTE 14.	4000	N/A	4000	
V2	ECLIPSE LIGHTING LW-L-LED30-4K-UNV-WH	WHITE LED CEILING MOUNT OUTDOOR FIXTURE WITH 17" DIAMETER LENS. ALSO SEE GENERAL NOTE 14.	2600	80	4000	
X1	ABL-LITHONIA LIGHTING LQM S W 3 R 120/277 EL N M6	WHITE LED SINGLE FACE EXIT SIGN WITH BATTERY BACK-UP AND RED LETTERS. REMOVE CHEVRONS TO MATCH EXISTING CONFIGURATION.	N/A	N/A	N/A	
X2	ABL-LITHONIA LIGHTING LQM S W 3 R 120/277 EL N M6	SAME AS X1 FIELD CONFIGURED FOR DUAL FACE INSTALLATION	N/A	N/A	N/A	
Х3	ABL-LITHONIA LIGHTING LE S 1 R EL N	BRUSHED ALUMINUM FACE, BLACK BODY LED SINGLE FACE EXIT SIGN WITH BATTERY BACK-UP AND RED LETTERS. REMOVE CHEVRONS TO MATCH EXISTING CONFIGURATION.	N/A	N/A	N/A	
X4	ABL-LITHONIA LIGHTING WLTE W 1 R EL SD	WHITE, WET LISTED EXIT FIXTURE FOR USE IN THE GARAGE BAYS WITH BATTERY BACK-UP	N/A	N/A	N/A	
XEM	ABL-LITHONIA LIGHTING LHQM LED R M6	SAME AS X1 WITH EMERGENCY HEADS TO PROVIDE MINIMUM 90 MINUTES OF BATTERY BACK-UP	N/A	N/A	N/A	

ELECTRICAL LEGEND AND ABBREVIATIONS (SEE SPECIFICATIONS & SCHEDULES)

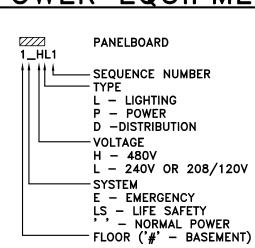
NOTES: 1. IN GENERAL, SYMBOLS SHOWN WITH LIGHT LINES DENOTE EXISTING WORK. SYMBOLS SHOWN WITH HEAVY LINES DENOTE NEW WORK.

RECESSED OR SURFACE LIGHTING FIXTURE

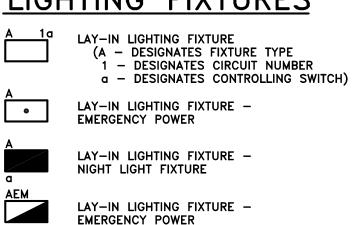
EMERGENCY, OR LIFE SAFETY

IF SHADED AS ABOVE

POWER EQUIPMENT



LIGHTING FIXTURES



WALL MOUNTED LINEAR LIGHTING FIXTURE

4' LONG LED WRAPAROUND FIXTURE

HEIGHT AS NOTED.

WALL MOUNTED LIGHTING FIXTURE EMERGENCY, OR LIFE SAFETY IF SHADED AS ABOVE LINEAR STRIP FIXTURE BARE-LINEAR STRIP - \longrightarrow EMERGENCY POWER EXIT SIGN DOUBLE-SIDED FIXTURE DIRECTIONAL ARROWS AS INDICATED EXIT SIGN SINGLE-SIDED FIXTURE DIRECTIONAL ARROWS AS INDICATED

BATTERY OPERATED EMERGENCY LIGHTING UNIT 4' LONG LED INDUSTRIAL FIXTURE WITH 12% UPLIGHT 4' LONG LED LOW PROFILE, ROUNDED LENS STRIP

OCCUPANCY SENSORS AND TIMERS

CEILING OCCUPANCY DETECTOR. DUAL TECHNOLOGY TYPE. DIGITAL TIMER WALL MOUNTED AT 48" AFF.

WIRING PLANS

→ HOMERUN TO PANEL OR DESTINATION NOTED

WIRING DEVICES - SWITCHES

EXISTING TO REMAIN SWITCHES - SINGLE POLE, 3-WAY EXISTING TO REMAIN KEY SWITCHES - SINGLE POLE, 3-WAY, ETC. NEW DIMMER SWITCH

ABBREVIATIONS (ALL ABBREVIATIONS MAY NOT APPEAR IN THIS PROJECT) AMP FUSE AFF - ABOVE FINISHED FLOOR AHJ — AUTHORITY HAVING JURISDICTION
ALT — ALTERNATE ARCH - ARCHITECTURAL BEMS - BUILDING ENERGY MANAGEMENT SYSTEM

BOF - BOTTOM OF FIXTURE

NOTE: ALL WIRES ARE TO BE TAUT

WITH A MINIMUM OF 3 TIGHT

TURNS AROUND SELF-TYPICAL

WIRE APPROVED FOR SEISMIC

SUPPORT HOLES & FASTENED TO

BUILDING STRUCTURE, MINIMUM (2)

SAFETY WIRES PER LIGHT FIXTURE

PLACES AT DIAGONAL CORNERS,

LIGHT FIXTURES < 56 LBS.

LIGHT FIXTURE

SAFTEY WIRE

TYPICAL -

WHITE —

EXISTING

GROUND

GREEN ——

E001 SCALE: NO SCALE

SUPPORT HOLE

SWAY BRACED

T-BAR CEILING

MAXIMUM 45° TO HORIZONTAL FOR

SUPPORT USE TIED TO WIRE

nVENT/CADDY/VST OR EQUAL #12 GA.

CB - CIRCUIT BREAKER

C – CONDUIT

DWG - DRAWING

EC - ELECTRICAL CONTRACTOR

STRUCTURE

OR BAR JOIST —

1 LAY-IN FIXTURE MOUNTING DETAIL

E001 / SCALE: NO SCALE

1. PROVIDE CONNECTION EXISTING LIGHTING CIRCUIT ABOVE ACCESSIBLE CEILING.

THE ACCESSIBLE CEILING. ALSO SEE SPECIFICATION SECTION 26 27 26 - WIRING DEVICES.

2. PROVIDE UL LISTED, PLENUM RATED, NON-BOOTED CAT 5e CABLES WITH RJ-45 JACKS FOR CONTROL CABLING. 3. REMOVE EXISTING DIMMER SWITCH AND WIRING AND PROVIDE POWER OVER ETHERNET (POE) 3 WAY DIMMER

SWITCH IN EXISTING SWITCH BACK BOX. PROVIDE PLENUM RATED, NON-BOOTED CAT 5e CABLE IN EXISTING CONDUIT TO NEW POE 3 WAY DIMMER SWITCH AT OTHER DOOR BACK BOX AND TO NEW CONTROLLER / POWER SUPPLY ABOVE

EM – EMERGENCY
EMT – ELECTRICAL
ETBR – EXISTING TC
ETC – ETCETERA **EMERGENCY** ELECTRICAL METALLIC TUBING EXISTING TO BE RELOCATED ETR - EXISTING TO REMAIN FA - FIRE ALARM FACP - FIRE ALARM CONTROL PANEL FS - FUSIBLE SWITCH GENERAL CONTRACTOR GF - GROUND FAULT GFI - GROUND FAULT CIRCUIT INTERRUPTER

- nVENT/CADDY/VST

MIN 5/8" URC CLIP,

INTEGRAL T-BAR CLIPS

MINIMUM (4) PER LIGHT

FIXTURE, SECURELY

ATTACHED TO CEILING

GRID- TYPICAL

— LIGHT FIXTURE

HILTI CC27 OR EQUAL

GROUND GRS - GALVANIZED RIGID STEEL MDP - MAIN DISTRIBUTION PANEL MEZZANINE MOUNTING HEIGHT MINIMUM MSW - MAIN SWITCH MTR – METER NEC - NATIONAL ELECTRIC CODE NFS - NON-FUSED SWITCH PNL – PANELBOARD

PROV - PROVIDE, TO MEAN FURNISH & INSTALL PVC - POLYVINY SW - SWITCH POLYVINYL CHLORIDE CONDUIT REQ'D - REQUIRED TELEPHONE TBR - TO BE REMOVED TYP - TYPICAL - UNLESS NOTED OTHERWISE VFD - VARIABLE FREQUENCY DRIVE XFMR - TRANSFORMER WP - WEATHERPROOF

INDICATES

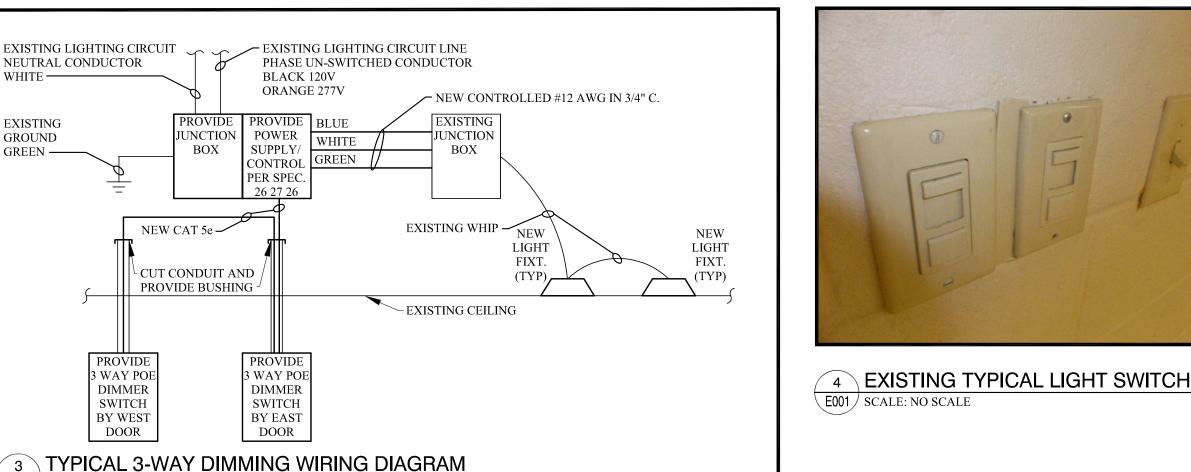
FACE(S)



GENERAL NOTES (APPLIES TO ALL SHEETS IN THIS SET

THE DESIGN INTENT IS FOR THE CONTRACTOR TO REMOVE, DISPOSE OF AND REPLACE EXISTING LIGHTING FIXTURES AND DIMMING SWITCHES IN THE EXISTING LOCATIONS WITH NEW LED LIGHTING FIXTURES PER LIGHTING FIXTURE SCHEDULE AND DIMMING CONTROL SYSTEMS PER SPECIFICATION SECTION 262726 WHERE SHOWN ON THE FLOOR PLANS AT THE "DEERS" BUILDING 24 AND THE ASSOCIATED GARAGE BUILDING IN JEFFERSON BARRACKS. EXISTING LINE VOLTAGE TOGGLE SWITCHES ARE TO REMAIN IN PLACE.

- · REMOVE AND REPLACE EXISTING LIGHTING FIXTURES ONE AREA AT A TIME RATHER THEN REMOVING ALL LIGHTING FIXTURES AT ONE TIME. MINIMUM WIRE SIZE SHALL BE #12 AWG COPPER IN 3/4" MINIMUM CONDUIT U.N.O. WIRING TO BE CONCEALED WHEREVER POSSIBLE WITHIN WALLS AND ABOVE CEILINGS. ÜSE OF FLEXIBLE CABLE IS PERMITTED FROM JUNCTION BOX TO FIXTURE OR DEVICE IN ACCESSIBLE AREAS PER STATE AND LOCAL CODES PROVIDED THAT A GREEN GROUND WIRE IS PROVIDED AND LENGTHS OF FLEXIBLE CABLE DO NOT EXCEED 25'-0".
- CONTRACTOR TO CONNECT NEW LIGHTING FIXTURES TO EXISTING CIRCUITS AND EXISTING SEISMIC RESTRAINTS PER SEISMIC CODES AND ORDINANCES. ANY REQUIRED WIRING EXTENSIONS SHALL MAINTAIN EXISTING RACEWAY AND CONDUCTOR SIZE. TYPE AND COLOR.
- PROVIDE PLENUM RATED, NON-BOOTED, CAT 5e CONTROL CABLING IN CONDUIT WITHIN WALLS AND SUPPORTED BY J-HOOKS ABOVE ACCESSIBLE CEILINGS. RE-USE OF EXISTING RACEWAY IS PERMISSIBLE ONCE EXISTING WIRING HAS BEEN REMOVED.
- CONTRACTOR TO REMOVE EXISTING LIGHTING FIXTURES AND DISPOSE OF PROPERLY. MOST OF THE EXISTING FIXTURES ARE FLUORESCENT. INCLUDE DISPOSAL FEES IN BID AND PRESENT DISPOSAL RECEIPTS TO OWNER FOR THEIR RECORDS. CIRCUIT AND SWITCH INFORMATION SHOWN ON PLANS IS BASED ON RECORD PLANS AND CASUAL FIELD OBSERVATION. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS IN ORDER DO TO ENSURE FIXTURES AND SWITCHES ARE DE-ENERGIZED PRIOR TO ANY DEMOLITION WORK. EXISTING HOME-RUNS ARE SHOWN ONLY TO CONVEY RECORD DRAWING CIRCUITING INFORMATION. NO NEW HOME-RUNS ARE REQUIRED.
- . ALL RECESSED DOWNLIGHTS MUST BE INSTALLED SO THAT THE BOTTOM OF THE THROAT IS EVEN WITH THE FINISHED CEILING PLANE WITH NO VISIBLE LIGHT LEAK. ALL HARDWARE, DRYWALL MOUNTING RINGS, FRAMES, ETC. TO ACCOMPLISH THIS TO BE IN BASE BID. . REPLACE ANY CEILING TILES OR REPAIR ANY SURFACES THAT MAY BECOME DAMAGED IN THE COURSE OF THIS PROJECT AND RESTORE
- FINISHES TO MATCH SURROUNDINGS FOR A CLEAN, UNBLEMISHED APPEARANCE. 10. EXISTING LIGHTING CIRCUITS, OCCUPANCY SENSORS, SEISMIC RESTRAINTS AND TOGGLE SWITCHES ARE TO REMAIN UNLESS NOTED OTHERWISE.
- 11. ALL FIXTURES SHALL OPERATE AT 120 OR 277 VOLTS AS REQUIRED BY THE CIRCUITS AND/OR PANELS TO WHICH THEY ARE CONNECTED, SHALL HAVE A U.L. LABEL AND SELF-FLANGED REFLECTORS UNLESS OTHERWISE NOTED. 12. CONTRACTOR IS RESPONSIBLE FOR ALL MISCELLANEOUS HARDWARE, CLIPS, CABLES, ANGLES, FRAMES, ETC. AS REQUIRED TO MOUNT THE
- FIXTURES IN OR ON THE SURFACES THEY ARE TO BE INSTALLED.
- 13. EXISTING EXIT AND NIGHT LIGHTING FIXTURES IN BUILDING 24 ARE FED FROM PANEL 1LSHL1 PER RECORD PLANS. 14. FIXTURE TYPES "V1" AND "V2" ARE CONTROLLED VIA A TIME CLOCK AND PHOTOCELL PER RECORD PLANS.









5 EXISTING TYPICAL CLASSROOM FRONT \setminus E001 / SCALE: NO SCALE



6 EXISTING TYPICAL CLASSROOM BACK $\mathsf{E001}$ SCALE: NO SCALE

ELECTRICAL SYSTEM COMPONENTS RISK CATEGORY (IV) SIESMIC DESIGN CATEGORY (D) EARTHOUAKE LOAD RESISTANCE LOCATION OF PROFESSIONALLY SWAY BRACING ANCHORAGE TO FLOORS, ROOFS, ETC. SEALED ANCHORAGE AND SWAY (SEE NOTE 1 BELOW) BRACING DETAILS (SEE NOTE 1 BELOW) LISTING OF EQUIPMENT NOT PROVIDED PROVIDED FOR COMMENTS NOT PROVIDED PROVIDED FOR ON CONSTR. | SUBSEQUENT AND SYSTEM COMPONENTS PROVIDED PROVIDED DOCUMENTS SUBMITTAL FOR PROJECT PROJECT FOR PROJECT PROJECT DRAWING No. OR (SEE NOTE 2 SPEC SECTION | BELOW) LIGHTING FIXTURES SEE LAY-IN FIXTURE MOUNTING DETAIL, THIS SHEET Χ E001 Х CIRCUITS AND CONDUIT SWAY BRACING NOT REQ'D FOR 1 1/4" OR SMALLER C. Χ 1. IT IS THE BASIC INTENT OF THIS CODE BLOCK TO DECLARE WHETHER OR NOT ANCHORAGE AND SWAY BRACING IS BEING PROVIDED ON THE PROJECT. IF SO, TO DECLARE WHETHER OR NOT THE DETAILS ARE SHOWN ON THE PLANS OR WILL BE SHOWN ON A SUBSEQUENT SUBMISSION. IF SEISMIC RESTRAINT OF A COMPONENT IS NOT REQUIRED BY CODE THIS SHOULD BE STATED IN

COMMENTS. IF SEISMIC RESTRAINT, WHICH IS NOT REQUIRED BY CODE, IS BEING PROVIDED DUE TO OWNER/DESIGNER REQUIREMENTS THIS SHOULD ALSO BE STATED IN THE COMMENTS.

2. PLANS SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER ALONG WITH A SEPARATE PERMIT APPLICATION NEED TO BE SUBMITTED TO THE COUNTY A MINIMUM OF TWO WEEKS PRIOR TO THE PLANNED INSTALLATION TO ALLOW FOR PLAN REVIEW AND DISTRIBUTION TO THE INSPECTOR. ADDITIONAL TIME MAY BE NEEDED IF SUCH SUBMISSIONS ARE DEFICIENT.

INDEX OF DRAWINGS:

- COVER SHEET E001 SEISMIC BLOCK, GENERAL NOTES, DETAILS & LEGEND
- E101M MAINTENANCE BUILDING LIGHTING PLAN E101 BASEMENT WEST LIGHTING PLAN BASEMENT CENTER LIGHTING PLAN E102
- E103 BASEMENT EAST LIGHTING PLAN E111 FIRST FLOOR WEST LIGHTING PLAN E112 FIRST FLOOR CENTER LIGHTING PLAN
- E113 FIRST FLOOR EAST LIGHTING PLAN E121 SECOND FLOOR WEST LIGHTING PLAN E122 SECOND FLOOR CENTER LIGHTING PLAN E123 SECOND FLOOR EAST LIGHTING PLAN

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL

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(PURSUANT TO SECTION 327.411 RSMO) ANY

SEAL INDICATES RESPONSIBILITY.

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OFFICE OF ADMINISTRATION

DESIGN AND CONSTRUCTION

MISSOURI NATIONAL

OFFICE OF ADJUTANT

FACILITIES DIVISION

UPGRADE LIGHTING TO

JOINT ARMED FORCES

JEFFERSON BARRACKS

PROJECT # T2143-01

ISSUE DATE: 12/19/2024

CONSULT FILE: 24006

DESIGNED BY: SIW

SEISMIC BLOCK,

GENERAL NOTES

ST. LOUIS, MISSOURI 63125

RESERVE CENTER

24 DAVIS STREET

DIVISION OF FACILITIES

MANAGEMENT

GUARD

GENERAL

CONSULTING ENGINEERS

ONLY FOR WHAT APPEARS ON THIS SHEET AND DISCLAIMS

SHEET NUMBER:

REVISION

DRAWN BY:

CHECKED BY

SHEET TITLE:



1 TYPICAL EXPLOSION PROOF "N1" AND "R1EM" FIXTURES
E101M SCALE: NO SCALE

GENERAL NOTES (THIS SHEET):

- 1. REPLACE EXISTING LIGHTING FIXTURES WITH LED EXCEPT GARAGE AREA LOW-BAY AND WALL MOUNTED EMERGENCY FIXTURES WHICH HAVE ALREADY BEEN UPGRADED TO LED.
- 2. PENDANT FIXTURES IN THE STORAGE AREAS ARE SUPPORTED FROM GALVANIZED RIGID STEEL CONDUIT WITH BALL SWIVEL JUNCTION BOXES OR FROM CHAIN HANGERS. IT IS ACCEPTABLE TO RE-USE THIS MOUNTING HARDWARE IF POSSIBLE. IF THE CONTRACTOR CHOOSES TO REPLACE THE MOUNTING HARDWARE, PROVIDE NEW TO MATCH EXISTING HARDWARE FURNISHED BY THE FIXTURE MANUFACTURER AND CUT TO THE PROPER LENGTH FOR THE MOUNTING HEIGHT TO MATCH EXISTING.
- 3. LIGHTING SWITCHES AND WIRING IN THIS BUILDING ARE EXISTING TO REMAIN.

KEYED NOTES (APPLIES TO THIS SHEET ONLY)

- 1 REPLACE EXISTING EXPLOSION PROOF LIGHT FIXTURE (TYPICAL FOR BATTERY, FLAMMABLE STORAGE, AND CONTROLLED WASTE STORAGE ROOMS).
- 2 EXISTING TO REMAIN BATTERY/ POWER SUPPLY FOR REMOTE MOUNTED EMERGENCY LIGHTING FIXTURES. NO WORK IS REQUIRED IN THIS AREA; THIS BATTERY LOCATION IS SHOWN FOR REFERENCE ONLY.
- 3 REPLACE EXISTING EXIT LIGHT (TYPICAL).
- 4 REPLACE EXISTING EXPLOSION PROOF EMERGENCY LIGHT FIXTURE FED FROM EXISTING TO REMAIN BATTERY LOCATED OUTSIDE OF HAZARDOUS AREA.
- 5 EXISTING TO REMAIN LED LOW BAY FIXTURE (TYPICAL FOR GARAGE AREA).

STANLEY
L. WEB

NUMBER
E25855
E25855

NUMBER
E25855

12/19/24

STATE OF MISSOURI MICHAEL L. PARSON,

GOVERNOR

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEARS ON THIS SHEET ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS SHEET AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO, OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS SHEET REFERS. RESPONSIBILITY FOR PORTIONS OF THE PROJECT NOT PREPARED UNDER MY SUPERVISION IS DISCLAIMED. REVISIONS BY CONTRACTORS, OWNER, OR OTHERS ARE NOT A PART OF THE PROJECT WHICH THIS SEAL INDICATES RESPONSIBILITY.

CONSULTANT



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT DESIGN AND CONSTRUCTION

MISSOURI NATIONAL GUARD OFFICE OF ADJUTANT GENERAL FACILITIES DIVISION

UPGRADE LIGHTING TO LED JOINT ARMED FORCES RESERVE CENTER JEFFERSON BARRACKS 24 DAVIS STREET ST. LOUIS, MISSOURI 63125

PROJECT # T2143-01 SITE # 6303 ASSET # 8136303051

REVISION:
DATE:
REVISION:
DATE:
REVISION:

DATE: ISSUE DATE: 12/19/2

ISSUE DATE: 12/19/2024

CONSULT FILE: 24006
DRAWN BY: JLC
CHECKED BY: MRW
DESIGNED BY: SIW

SHEET TITLE:

MAINTENANCE

BUILDING

LIGHTING PLAN

SHEET NUMBER:
F101M

3 OF 12 SHEETS



SCALE 1/8" = 1'-0"

MAINTENANCE BUILDING <u>LIGHTING PLAN</u>

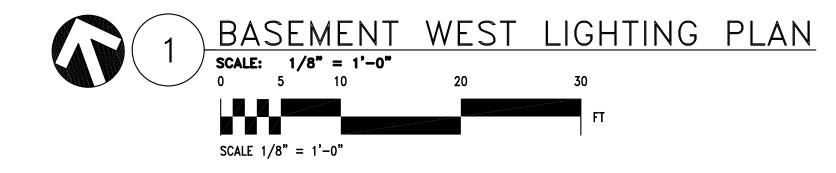
- HAZARDOUS LOCATION NOTES

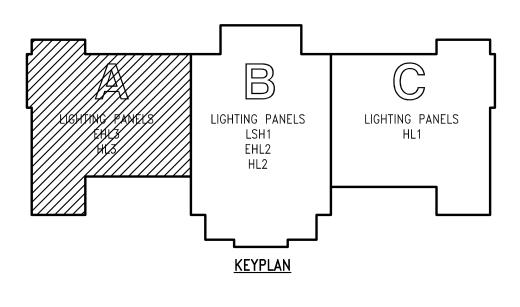
 1. THE FLAMMABLE STORAGE ROOM AND THE CONTROLLED WASTE STORAGE ROOM ARE CLASS I, DIVISION 1, CLASSIFIED HAZARDOUS LOCATIONS. ALL ELECTRICAL EQUIPMENT INSTALLED IN THESE HAZARDOUS AREAS SHALL BE FM APPROVED, UL LISTED, OR ETL LISTED SUITABLE FOR USE IN CLASS I, DIVISION 1, GROUP C AND D HAZARDOUS ENVIRONMENT AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE NEC ARTICLES 500, 501, 504, AND/OR 505. PERFORM ALL WORK IN CLASSIFIED HAZARDOUS LOCATIONS AS DEFINED BY THE NEC IN STRICT ACCORDANCE WITH THE NEC FOR THE PARTICULAR "CLASS", "DIVISION", AND "GROUP" OF HAZARDOUS LOCATIONS INVOLVED OR INDICATED ON THE DRAWINGS.
- 2. PER ARMY NATIONAL GUARD DG415-1 THE BATTERY ROOM SHALL COMPLY WITH NEC ARTICLE 480, STORAGE BATTERIES AND NEC ARTICLE 503 CLASS III LOCATIONS. PER UNIFIED FACILITIES CRITERIA UFC 4-171-05 SECTION 4-5.9 IT NOTES THE LIGHTING SHALL BE EXPLOSION PROOF. BASED ON REVIEW WITH THE MISSOURI ARMY NATIONAL GUARD THE HEATING, LIGHTING, AND VENTILATION SYSTEM IN THE BATTERY ROOM SHALL BE FM APPROVED, UL LISTED, OR ETL LISTED SUITABLE FOR USE IN CLASS I, DIVISION 1, GROUP C AND D HAZARDOUS ENVIRONMENT AND INSTALLED IN CONFORMANCE WITH THE APPLICABLE SECTIONS OF THE NEC ARTICLES 500, 501, 504, AND/OR 505.
- 3. ALL CONDUITS INSTALLED IN CLASS I, DIVISION 1 CLASSIFIED HAZARDOUS LOCATIONS SHALL BE RIGID METAL CONDUIT WITH THREADED CONNECTIONS AND FITTINGS SUITABLE FOR THE RESPECTIVE LOCATION. ALL BOXES AND FITTINGS INSTALLED IN CLASS I, DIVISION 1 LOCATIONS SHALL BE APPROVED (FM APPROVED OR UL—LISTED) SUITABLE FOR CLASS I, DIVISION 1 LOCATIONS.
- 4. EXPLOSION-PROOF FLEXIBLE CONDUIT SHALL BE SUITABLE FOR USE IN CLASS I, DIVISION 1, GROUP C AND D HAZARDOUS LOCATIONS, AND LIQUID-TIGHT FOR WET LOCATIONS. EXPLOSION PROOF FLEXIBLE CONDUIT SHALL BE CROUSE-HINDS ECGJH, ECLK SERIES, O-Z/GEDNEY ECGJH, ECLK SERIES, OR APPLETON EXGJH OR EXLK SERIES FLEXIBLE COUPLING.

- 5. EXPLOSION—PROOF CONDUIT SEALS SHALL BE SUITABLE FOR USE IN CLASS I, DIVISION 1, GROUP C, D HAZARDOUS LOCATION. EXPLOSION PROOF CONDUIT SEALING FITTINGS SHALL BE CROUSE—HINDS EYS, EZS, EYSX, EYD, EYDX SERIES, APPLETON EYS, ESU, EY, EYSEF, EYD, EYDEF SERIES, O—Z/GEDNEY EYA, EY, EZS SERIES, OR HUBBELL—KILLARK ENY, EYS, OR EY SERIES EXPLOSION—PROOF SEALING FITTING. EXPLOSION—PROOF CONDUIT SEALS SHALL BE INSTALLED IN CONFORMANCE WITH NEC ARTICLE 501 AND/OR 505, AND SHALL BE REQUIRED FOR, BUT
 - NOT LIMITED TO THE FOLLOWING:

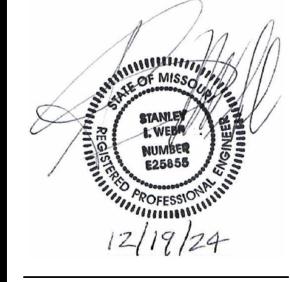
 A. ALL CONDUITS ENTERING OR EXITING A CLASSIFIED HAZARDOUS
 LOCATION, AND SHALL BE THE FIRST FITTING AFTER THE CONDUIT
 - ENTERS OR EXITS THE RESPECTIVE LOCATION.

 B. IN EACH CONDUIT RUN ENTERING AN ENCLOSURE (LOCATED A HAZARDOUS AREA) FOR SWITCHES, CIRCUIT BREAKERS, FUSES, RELAYS, RESISTORS, LIGHT FIXTURES, MOTORS, OR OTHER APPARATUS WHICH MAY PRODUCE ARCS, SPARKS, OR HIGH TEMPERATURES, (WITHIN 18" FROM SUCH ENCLOSURES). FACTORY SEALED DEVICES DO NOT REQUIRE CONDUIT SEALS IF CONDUIT ENTERING SUCH DEVICE IS 1.5" OR SMALLER.
 - C. ALL CONDUITS EMERGING FROM GRADE IN A NON—HAZARDOUS LOCATION THAT ARE TO OR FROM A CLASSIFIED HAZARDOUS LOCATION AND SHALL BE THE FIRST FITTING AFTER THE CONDUIT EMERGES FROM GRADE.
 - D. IN ACCORDANCE WITH THE RESPECTIVE EQUIPMENT
 MANUFACTURER'S INSTRUCTIONS WHERE THE RESPECTIVE
 EQUIPMENT IS RATED AND APPROVED SUITABLE FOR USE IN THE
 CLASSIFIED HAZARDOUS LOCATION.
- 6. PER ARTICLE 501.15 (C) (6) OF THE NEC AND UL STANDARD 886, THE CROSS SECTIONAL AREA FOR CONDUCTORS INSTALLED IN A CONDUIT SEAL OFF FITTING SHALL NOT EXCEED 25 PERCENT, UNLESS THE CONDUIT SEAL OFF FITTING HAS BEEN SPECIFICALLY APPROVED FOR A HIGHER PERCENTAGE OF FILL. INSTALL EXPLOSION—PROOF CONDUIT SEALING FITTINGS IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S INSTRUCTIONS. CONTACT THE RESPECTIVE SEAL OFF MANUFACTURER IF ASSISTANCE IS REQUIRED FOR DIRECTION OF INSTALLING PACKING FIBER TO FORM A DAM AND POURING THE SEALING COMPOUND.





STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR



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OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT DESIGN AND CONSTRUCTION

MISSOURI NATIONAL GUARD OFFICE OF ADJUTANT GENERAL FACILITIES DIVISION

UPGRADE LIGHTING TO LED JOINT ARMED FORCES RESERVE CENTER JEFFERSON BARRACKS 24 DAVIS STREET ST. LOUIS, MISSOURI 63125

PROJECT # T2143-01 SITE # 6303 ASSET # 8136303051

REVISION:
DATE:
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DATE:
REVISION:
DATE:

CONSULT FILE: 24006
DRAWN BY: JLC
CHECKED BY: MRW
DESIGNED BY: SIW

SHEET TITLE:

BASEMENT WEST LIGHTING PLAN

SHEET NUMBER:

E101



BASEMENT CENTER LIGHTING PLAN

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



- 1 REPLACE EXISTING 3-WAY DIMMER SWITCHES WITH NEW PER SHEET E001 NOTES, DETAILS AND SPECIFICATIONS.
- 2 REFER TO DETAIL 2, DRAWING E050 FOR MOUNTING DETAIL FOR FIXTURES IN CAGES. TYPICAL
- 3 LIGHT FIXTURES TO BE CONTROLLED BY SWITCH LABLED 'c' ON SHEET E104.
- 4 LIGHT FIXTURE IS FED FROM PANEL HL3.

LIGHTING PANELS

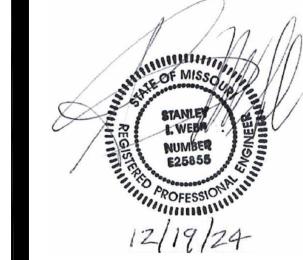
EHL3 HL3

XIGHTUNG/PANGLS

LIGHTING PANELS

- 5 LIGHT FIXTURES ARE FED FROM PANEL HL1.
- 6 PROVIDE LITHONIA DM-2-32 OR EQUAL. LOCATE SWITCH ADJACENT TO PIT ACCESS POINT.
- 7 REFER TO SHEET E104 FOR LIGHT FIXTURES CONTROLLED BY THESE SWIITCHES.
- 8 REFER TO DRAWING E103 FOR CORRESPONDING 3-WAY SWITCH.
- 9 TYPE 'K1' ARE FURNISHED WITH SHOWER ASSEMBLY KIT.

(THIS SHEET ONLY)



STATE OF MISSOURI

MICHAEL L. PARSON,

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PROJECT # T2143-01 6303 ASSET # 8136303051

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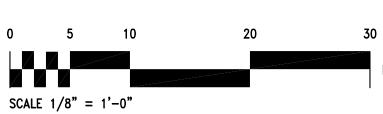
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CHECKED BY: MRW
DESIGNED BY: SIW

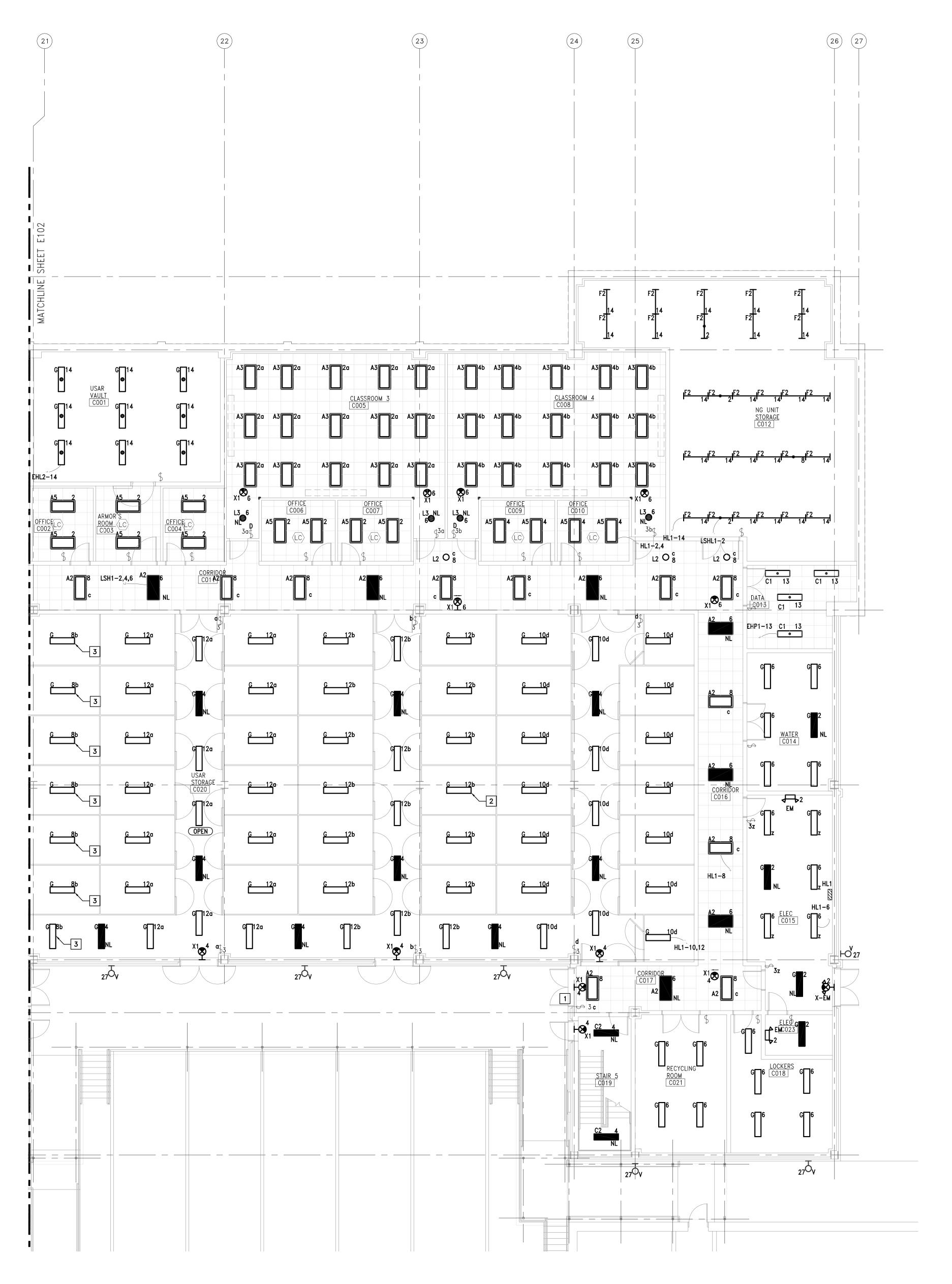
SHEET TITLE:

BASEMENT CENTER LIGHTING PLAN

SHEET NUMBER:

E102





(THIS SHEET ONLY)

- 1 REFER TO DRAWING E102 FOR CORRESPONDING 3-WAY SWITCH.
- 2 REFER TO DETAIL 2, SHEET E001 FOR MOUNTING DETAIL FOR FIXTURES IN CAGES. TYPICAL
- 3 LIGHT FIXTURE TO BE CONTROLLED BY SWITCH LABELED 'b' ON SHEET E102.

LIGHTING PANELS

EHL2

<u>KEYPLAN</u>

LIGHTING PANELS

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**

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PROJECT # T2143-01 6303 ASSET # 8136303051

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ISSUE DATE: 12/19/2024

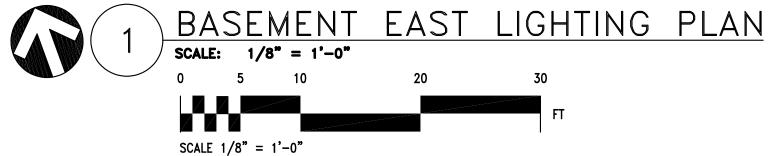
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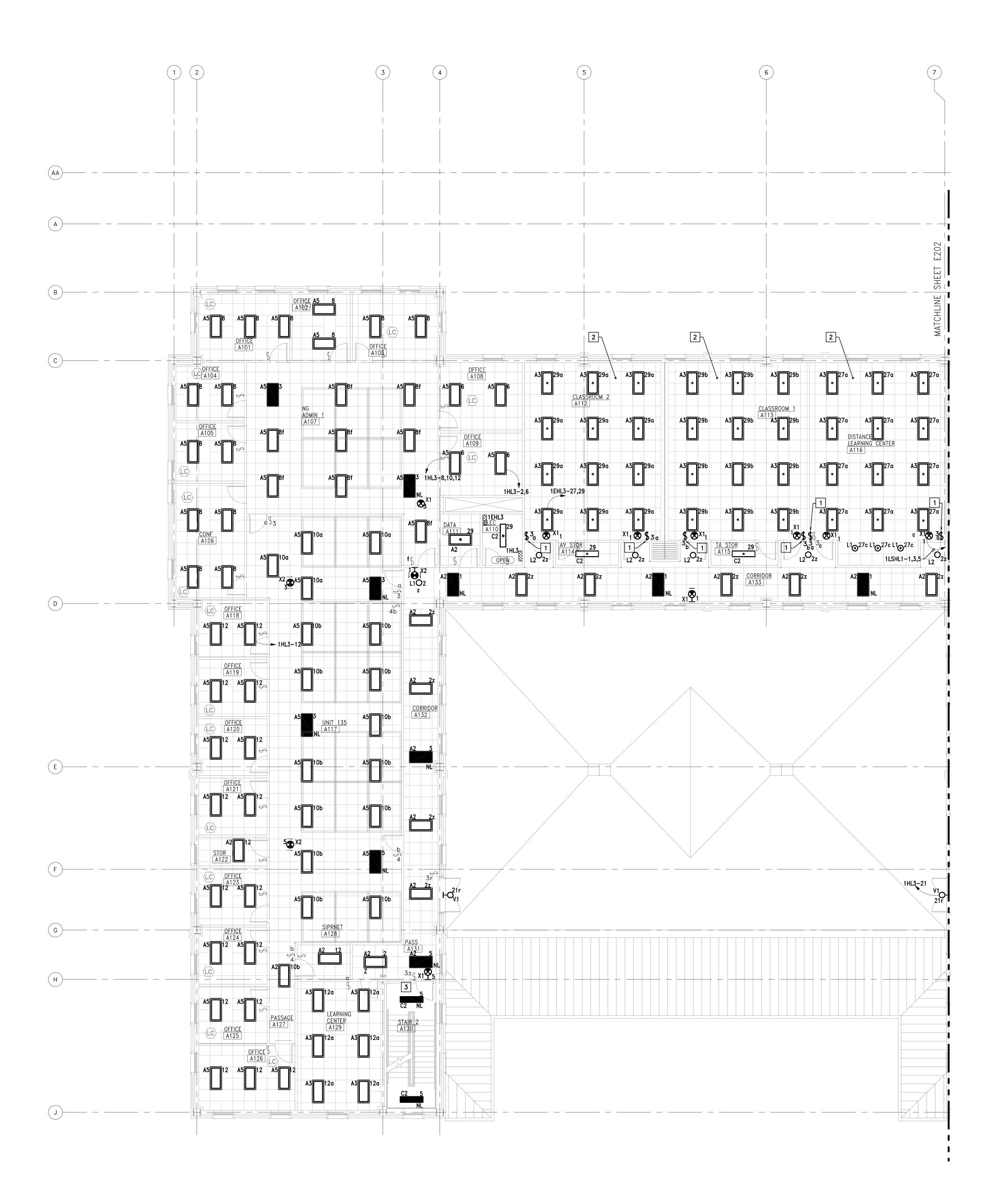
SHEET TITLE:

BASEMENT EAST LIGHTING PLAN

SHEET NUMBER:

E103







LIGHTING PANELS 1LSH1 1EHL2 1HL2

LIGHTING PANELS 1HL1 (THIS SHEET ONLY)

1 REPLACE EXISTING 3-WAY DIMMER SWITCHES WITH NEW PER SHEET E001 NOTES, DETAILS AND SPECIFICATIONS.

2 LIGHT FIXTURES IN THIS ROOM ARE FED FROM AN EMERGENCY PANEL.

3 REFER TO DRAWING E112 FOR CORRESPONDING 3-WAY SWITCH LOCATION.

STANLEY

NUMBER
E25855

PROFESSIONALITATION

STATE OF MISSOURI MICHAEL L. PARSON,

GOVERNOR

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PROJECT # T2143-01 SITE # 6303 ASSET # 8136303051

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CONSULT FILE: 24006

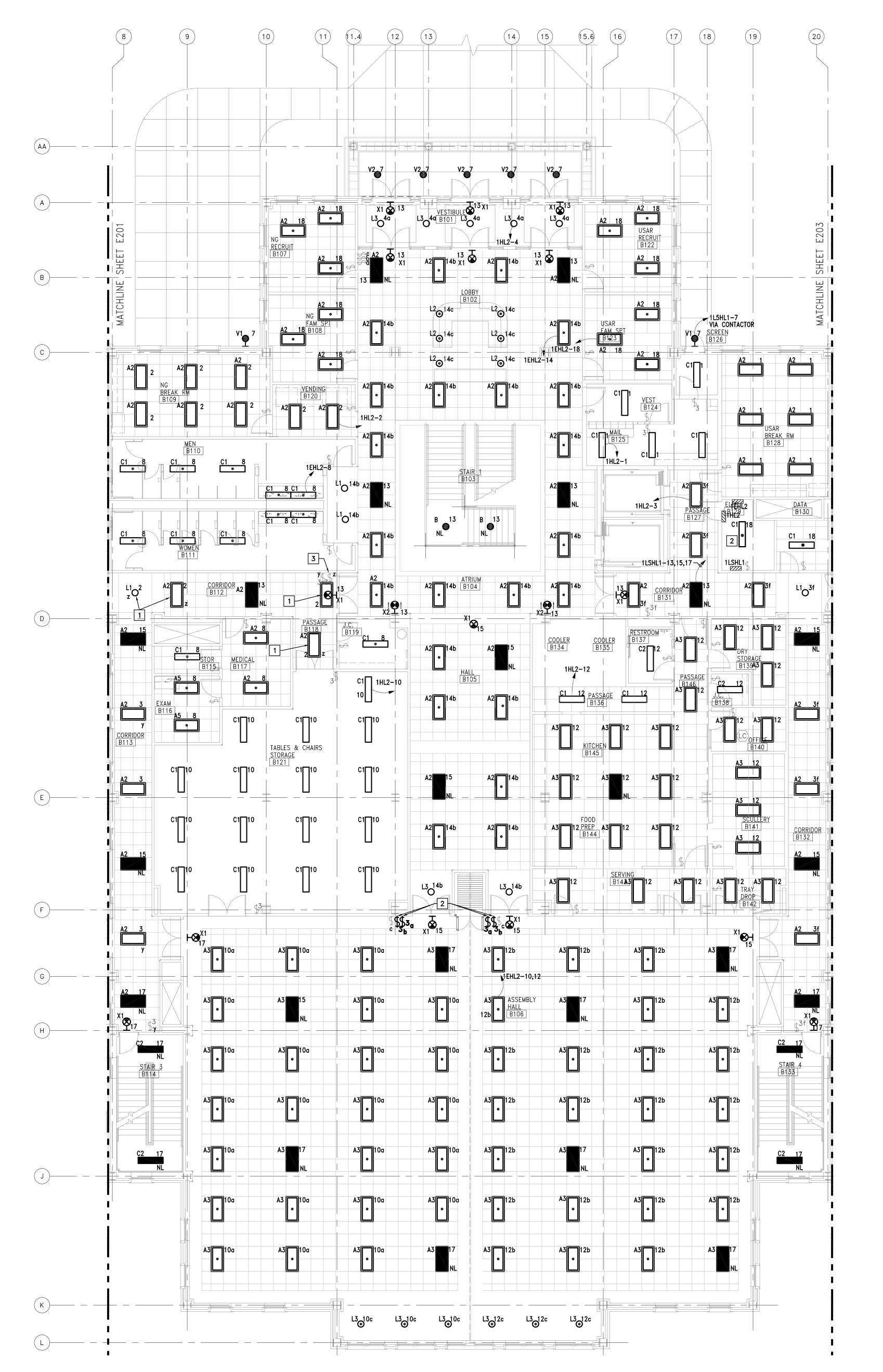
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DESIGNED BY: SIW

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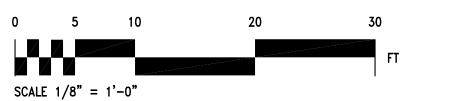
FIRST FLOOR WEST LIGHTING PLAN

SHEET NUMBER:









LIGHTING PANELS

LIGHTING PANELS

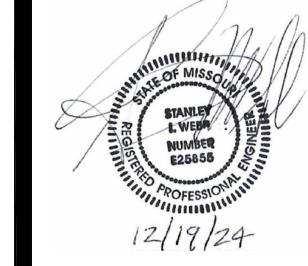
1 LIGHTS ARE FED FROM PANEL 1HL3. REFER TO SHEET E111.

2 REPLACE EXISTING 3-WAY DIMMER SWITCHES WITH NEW PER SHEET E001 NOTES AND DETAILS AND SPECIFICATIONS.

3 REFER TO SHEET E113 FOR COINCIDING THREE WAY SWITCH, AND FIXTURES CONTROLLED.

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**

(THIS SHEET ONLY)



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MISSOURI NATIONAL GUARD OFFICE OF ADJUTANT **GENERAL** FACILITIES DIVISION

UPGRADE LIGHTING TO JOINT ARMED FORCES RESERVE CENTER JEFFERSON BARRACKS 24 DAVIS STREET ST. LOUIS, MISSOURI 63125

PROJECT # T2143-01 6303 ASSET # 8136303051

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ISSUE DATE: 12/19/2024

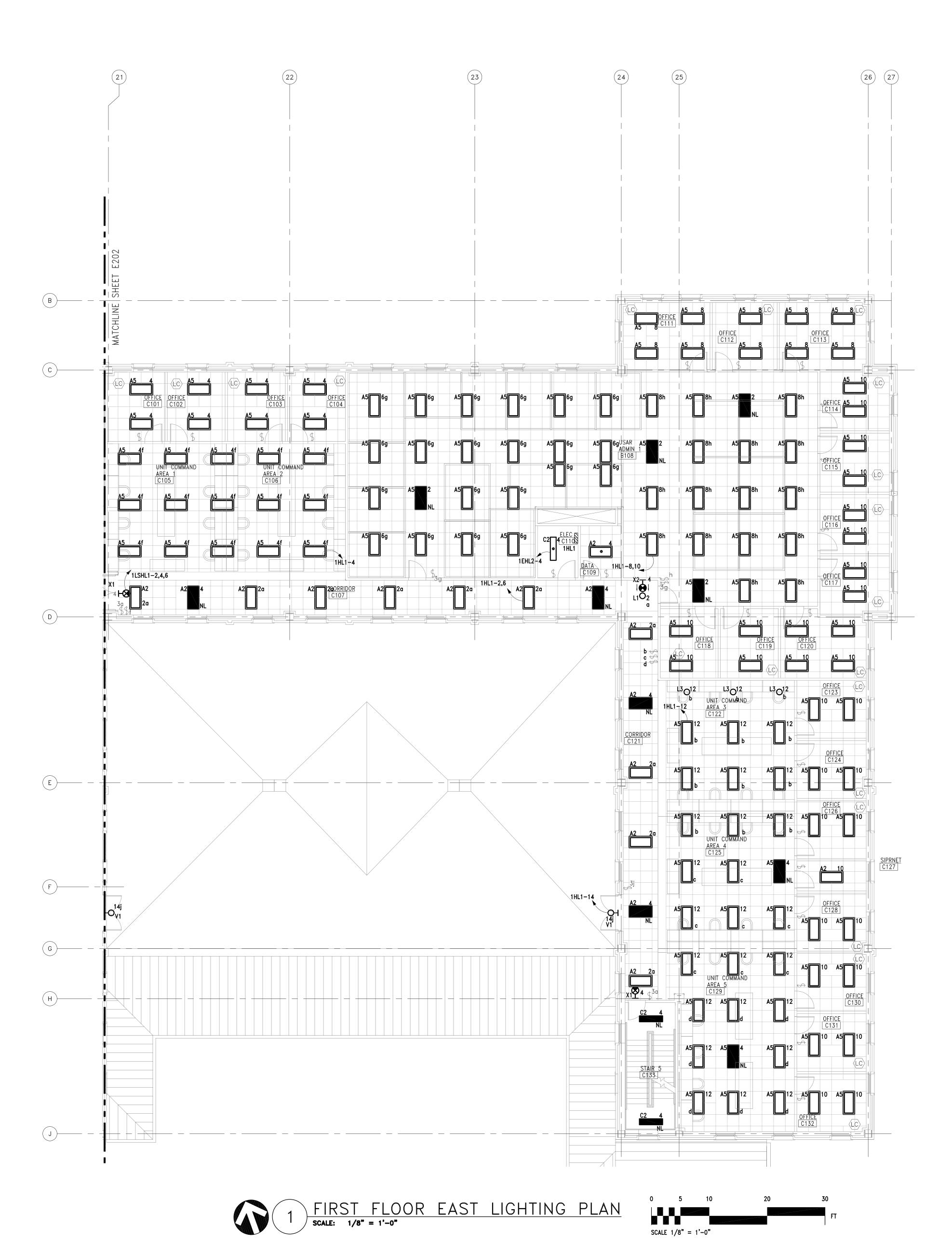
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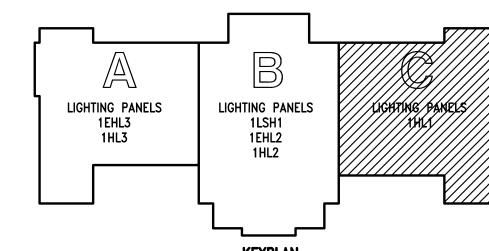
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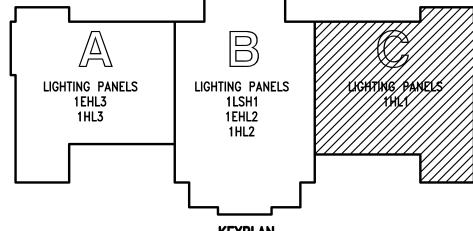
FIRST FLOOR CENTER LIGHTING PLAN

SHEET NUMBER:









STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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UPGRADE LIGHTING TO JOINT ARMED FORCES RESERVE CENTER JEFFERSON BARRACKS 24 DAVIS STREET ST. LOUIS, MISSOURI 63125

PROJECT # T2143-01 6303 ASSET # 8136303051

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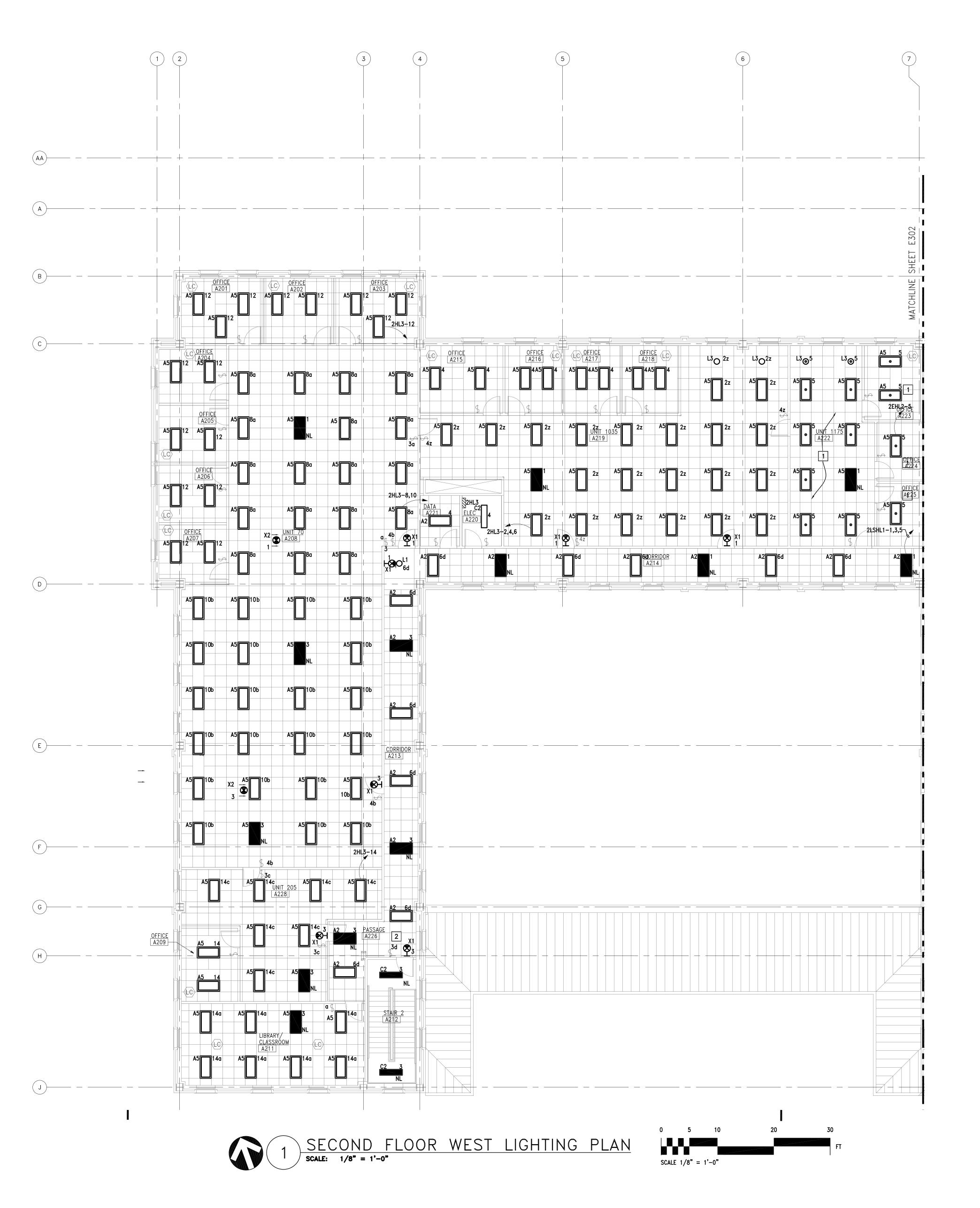
CONSULT FILE: 24006
DRAWN BY: JLC
CHECKED BY: MRW
DESIGNED BY: SIW

SHEET TITLE:

FIRST FLOOR EAST LIGHTING PLAN

SHEET NUMBER:

E113



(THIS SHEET ONLY)

1 OFFICE AREA LIGHTING IS ON EMERGENCY POWER CIRCUIT 2EHL2-5. 2 REFER TO DRAWING E122 FOR CORRESPONDING 3-WAY SWITCH.

LIGHTING PANELS 2HL2

<u>KEYPLAN</u>

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**

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UPGRADE LIGHTING TO JOINT ARMED FORCES RESERVE CENTER JEFFERSON BARRACKS 24 DAVIS STREET ST. LOUIS, MISSOURI 63125

PROJECT # T2143-01 6303 ASSET # 8136303051

ISSUE DATE: 12/19/2024

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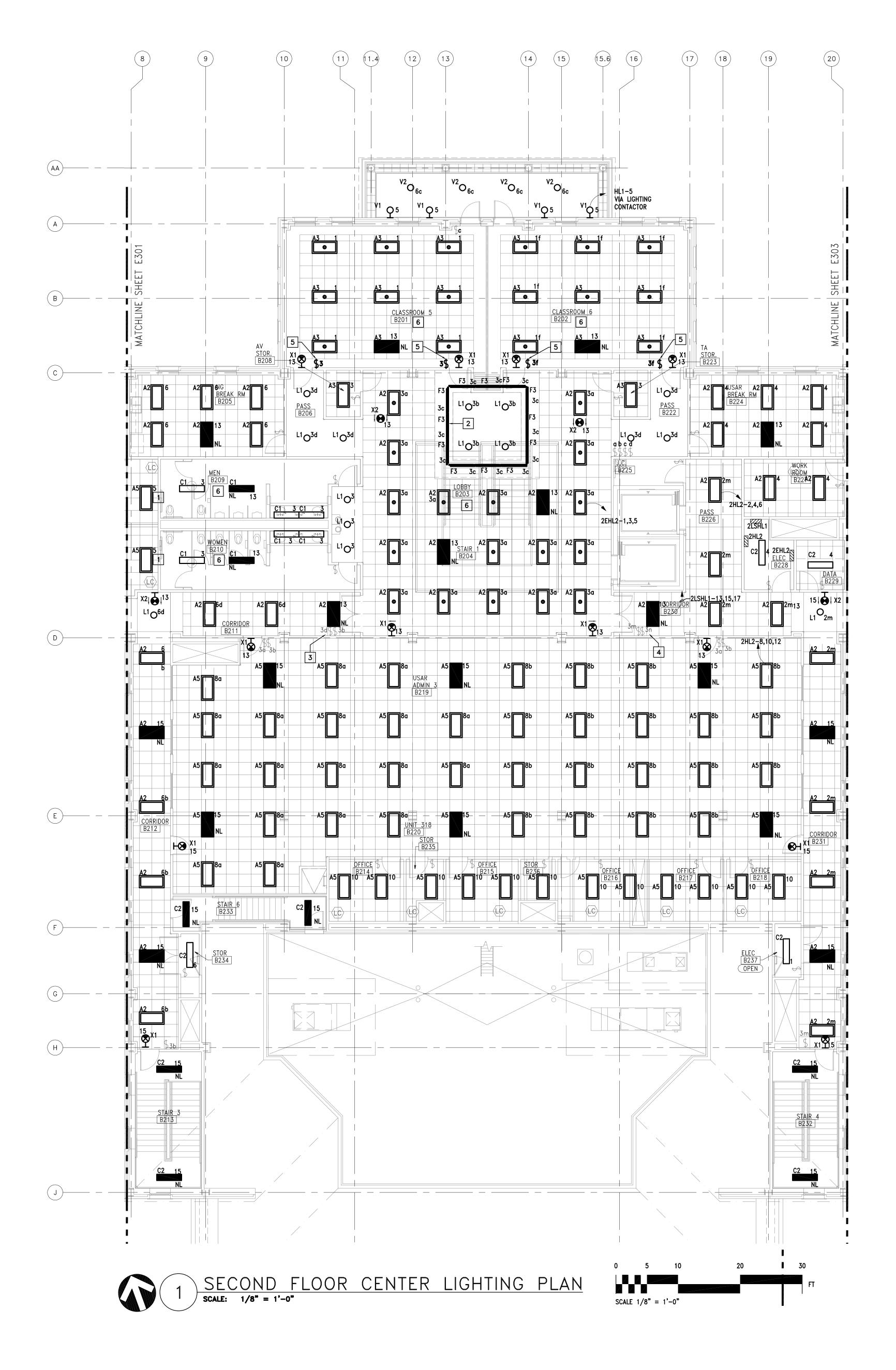
DESIGNED BY: SIW

SHEET TITLE:

SECOND FLOOR WEST LIGHTING PLAN

SHEET NUMBER:

E121



LIGHTING PANELS

LIGHTING PANELS

<u>KEYPLAN</u>

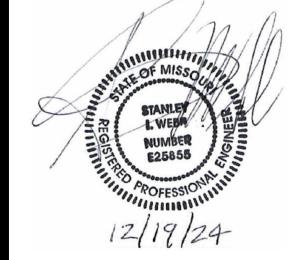
(THIS SHEET ONLY)

- 2 FIELD VERIFY EXACT FIXTURE LENGTHS WITH COVE DIMENSIONS.
- 3 REFER TO DRAWING E121 FOR CORRESPONDING 3-WAY SWITCH.
- 4 REFER TO DRAWING E123 FOR CORRESPONDING 3-WAY SWITCH.
- 5 REPLACE EXISTING 3-WAY DIMMER SWITCHES WITH NEW PER SHEET E001 NOTES, DETAILS AND SPECIFICATIONS.

1 LIGHT FIXTURE CONNECTED TO PANEL 2EHL2. REFER TO SHEET E121 FOR CONTINUATION OF CIRCUIT.

THE LIGHTING IN CLASSROOM 5 AND 6, LOBBY B2003, AND TOILETS B209 AND B210 IS ON EMERGENCY CIRCUITS.

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**



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PROJECT # T2143-01 6303 ASSET # 8136303051

REVISION: REVISION:

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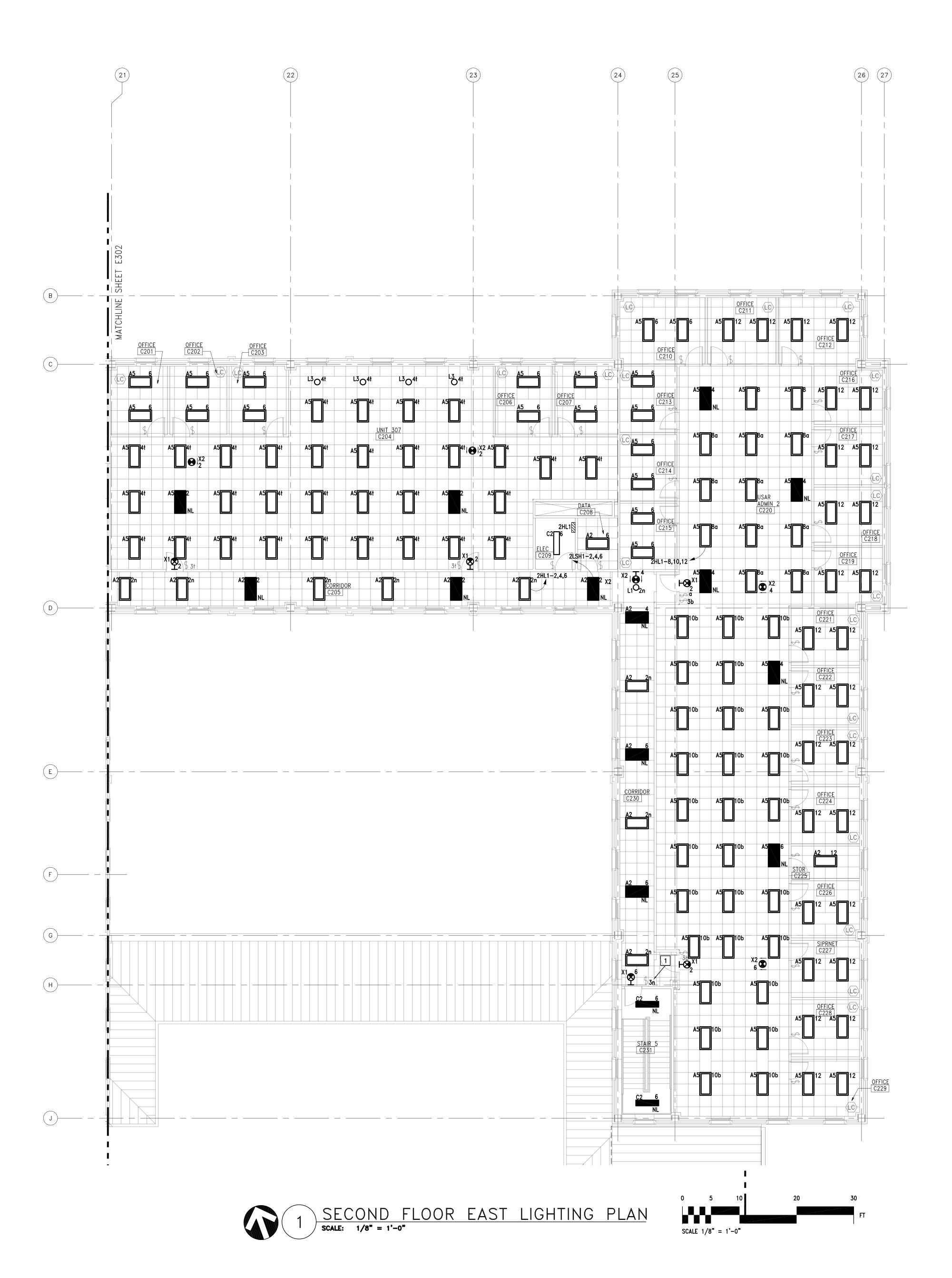
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DRAWN BY: JLC
CHECKED BY: MRW
DESIGNED BY: SIW

SHEET TITLE:

SECOND FLOOR CENTER LIGHTING PLAN

SHEET NUMBER:

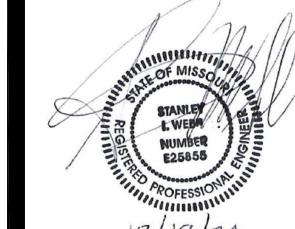
E122



1 REFER TO DRAWING E122 FOR CORRESPONDING 3-WAY SWITCH.

<u>KEYPLAN</u>

(THIS SHEET ONLY)



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ISSUE DATE: 12/19/2024

CONSULT FILE: 24006
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DESIGNED BY: SIW

SHEET TITLE:

SECOND FLOOR EAST LIGHTING PLAN

SHEET NUMBER:

E123