THE WORK OF THIS SECTION SHALL PROVIDE COMPLETE ELECTRICAL SYSTEMS WHICH SHALL INCLUDE THE PROVIDING OF ALL CONDUCTORS, RACEWAYS, FITTINGS, LIGHT FIXTURES, BOXES, SUPPORTS, AND ALL ASSOCIATED APPURTENANCES AND MISCELLANEOUS EQUIPMENT NECESSARY, ALL OF WHICH SHALL BE COMPLETELY CONNECTED, TESTED, ADJUSTED AND LEFT IN PROPER OPERATING CONDITION. THE ELECTRICAL SYSTEM TO BE PROVIDED

## **GENERAL NOTES:**

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE 2008 NATIONAL ELECTRICAL CODE (NEC), THE 2009 INTERNATIONAL BUILDING CODE (IBC), AND ANY LOCAL CODES, LAWS AND ORDINANCES WHICH MAY APPLY. WHERE DIFFERENCES EXIST BETWEEN THE CODES, THE STRICTER CODE SHALL APPLY.
- 2. ALL CONDUITS SHALL CONTAIN A GROUNDING CONDUCTOR REGARDLESS OF USE.

SHALL INCLUDE SERVICE AND DISTRIBUTION FOR LIGHTING SYSTEMS, AND ALL OUTLETS AS COVERED HEREINAFTER.

- THE CONTRACTOR FOR THE WORK UNDER THIS SECTION SHALL PROCURE AND PAY FOR ALL PERMITS, FEES, AND LICENSES REQUIRED FOR THE EXECUTION OF THIS WORK. SATISFACTORY EVIDENCE OF COMPLIANCE WITH THE REQUIREMENT AND ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER PROMPTLY UPON REQUEST.
- TYPE MC CABLE MAY NOT BE USED ON THIS PROJECT, EXCEPT THAT METAL CLAD CABLE SHALL BE PERMITTED FOR LIGHT FIXTURE WHIPS PROVIDED THEY DO NOT EXCEED 6-FEET IN LENGTH AND ARE PROVIDED BY THE LIGHT FIXTURE MANUFACTURER.
- UNLESS OTHERWISE NOTED FOR 120-VOLT, 20-AMP CKTS: #10 AWG SHALL BE USED FOR HOMERUNS LONGER THAN 75 FEET
- #12 AWG SHALL BE USED FOR HOMERUNS 75 FEET OR SHORTER
- ELECTRICAL METALLIC TUBING AND RIGID GALVANIZED STEEL CONDUIT SHALL BE THE ONLY TYPES OF CONDUIT INSTALLED WITHIN THE BUILDING. PVC IS PERMITTED UNDERGROUND.
- 7. ALL FIRE RATED WALLS, FLOORS, ETC WHICH HAVE A CONDUIT OR OTHER ELECTRICAL PENETRATION SHALL BE SEALED TO EQUAL THE RATING OF THE WALL, FLOOR, ETC. THAT IS PENETRATED. CONTRACTOR SHALL USE A U.L. RATED AND LISTED ASSEMBLY FOR THE SEALING MATERIAL AND
- 8. CONCEAL ALL CONDUIT AND FITTINGS EXCEPT WHERE THE ENGINEER GRANTS SPECIFIC PERMISSION.
- 9. ALL WORK AND MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE.
- 10. INSTALL ALL MATERIALS PER MANUFACTURER'S INSTRUCTIONS.
- 11. VISIT SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID.
- 12. ALL RACEWAYS, FIXTURES, WIRING, DEVICES, AND EQUIPMENT RENDERED USELESS BY THIS WORK SHALL BE REMOVED AND DELIVERED TO THE OWNER'S STORAGE FACILITY AS DIRECTED. ANY MATERIAL NOT WANTED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
- 13. WHERE DISAGREEMENTS EXISTS ON THE DESIGN DOCUMENTS, THE ITEM OR ARRANGEMENTS OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST SHALL BE INCLUDED IN THE BASE BID. ANY DISCREPANCIES BETWEEN THE DRAWINGS, SPECIFICATIONS, AND FIELD CONDITIONS SHALL BE RESOLVED WITH THE ENGINEER PRIOR TO COMMENCING WORK. ALL AGREEMENTS SHALL BE VERIFIED IN WRITING.
- 14. ALL WORK UNDER THIS SECTION SHALL BE COORDINATED WITH OTHER TRADES TO INSURE PROPER LOCATION OF OUTLETS AND EQUIPMENT CONNECTIONS, AND TO MINIMIZE CONFLICTS WITH STRUCTURAL MEMBERS, DUCT WORK, PIPING, ETC. CONFLICTS BETWEEN EQUIPMENT AND/OR MATERIAL LOCATIONS SHALL BE CORRECTED AS DIRECTED BY THE ARCHITECT-ENGINEER AT NO ADDITIONAL COST TO THE OWNER.

ELECTRICAL SYMBOLS

WALL OR CEILING MOUNTED FLUORESCENT FIXTURE.

RECESSED FLUORESCENT FIXTURE, WIRE THRU GREENFIELD FROM OUTLET BOX ABOVE CEILING. "NL" DENOTES FIXTURE WIRED TO A SEPARATE NIGHT LIGHT CIRCUIT.

HALF-SHADED FIXTURE DENOTES FIXTURE WITH EMERGENCY BATTERY PACK. SEE FIXTURE SCHEDULE AND SPECIFICATIONS FOR BATTERY TYPE.

WALL OR CEILING MOUNTED INCANDESCENT, FLUORESCENT, OR H.I.D. FIXTURE

RECESSED INCANDESCENT, FLUORESCENT, OR H.I.D. FIXTURE.

WALL OR CEILING MOUNTED LED EXIT LIGHT, SHADED AREA DENOTES FACE.

WALL OR CEILING MOUNTED COMBINATION LED EXIT LIGHT AND EMERGENCY BATTERY LIGHT, SHADED AREA DENOTES FACE.

EMERGENCY BATTERY LIGHT.

BRANCH CIRCUIT WIRING RUN CONCEALED IN WALLS OR CEILING, 2#12, 1#12G UNLESS NOTED OTHERWISE. WHERE MORE THAN TWO CONDUCTORS ARE REQUIRED, SLASH MARKS INDICATE NUMBER OF #12 CONDUCTORS. SHORT SLASH DENOTES HOT OR SWITCH LEG, LONG SLASH DENOTES NEÜTRAL, "L" DENOTES GREEN GROUNDING WIRE. ARROW DENOTES HOME RUN, NUMERAL DENOTES CIRCUIT NUMBER.

• ON MODE: ALL LIGHTS ARE "ON" (100%) WHEN

BOTH SWITCHES ARE "ON".

OCCUPANCY SENSOR NOTES (ALTERNATE NO. 1):

MANUFACTURER: PRODUCTS SUPPLIED SHALL BE FROM A SINGLE MANUFACTURING THAT HAS BEEN CONTINUOUSLY INVOLVED IN THE MANUFACTURING OF OCCUPANCY SENSORS FOR A MINIMUM OF FIVE (5) YEARS. MIXING OF MANUFACTURERS SHALL NOT BE ALLOWED. FURNISH AND INSTALL SENSORS AS MANUFACTURED BY WATTSTOPPER, HUBBELL, LEVITON, OR APPROVED EQUAL.

WARRANTY: ALL COMPONENTS SHALL BE U.L. LISTED, OFFER A MINIMUM FIVE (5) YEAR WARRANTY AND MEET ALL STATE AND LOCAL APPLICABLE CODE REQUIREMENTS. CONTRACTOR SHALL WARRANT ALL EQUIPMENT FURNISHED IN ACCORDANCE TO THIS SPECIFICATION TO BE UNDAMAGED, FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP, AND IN CONFORMANCE WITH THE SPECIFICATIONS. THE SUPPLIER'S OBLIGATION SHALL INCLUDE REPAIR OR REPLACEMENT, AND TESTING WITHOUT CHARGE TO THE OWNER, ALL OR ANY PARTS OF EQUIPMENT WHICH ARE FOUND TO BE DAMAGED, DEFECTIVE OR NON-CONFORMING AND RETURNED TO THE SUPPLIER. THE WARRANTY SHALL COMMENCE UPON THE OWNER'S ACCEPTANCE OF THE PROJECT. WARRANTY ON LABOR SHALL BE FOR A MINIMUM PERIOD OF ONE (1)

<u>SUBMITTALS AND DOCUMENTATION:</u> MANUFACTURER SHALL SUBSTANTIATE CONFORMANCE TO THIS SPECIFICATION BY SUPPLYING THE NECESSARY DOCUMENTS, PERFORMANCE DATA AND WIRING DIAGRAMS. SUBMIT A LIGHTING PLAN CLEARLY MARKED BY MANUFACTURER SHOWING PROPER PRODUCT, LOCATION, WIRING, AND ORIENTATION OF EACH SENSOR. SUBMIT STANDARD CATALOG LITERATURE WHICH INCLUDES PERFORMANCE SPECIFICATIONS INDICATING COMPLIANCE TO THE SPECIFICATION.

LAYOUT OF OCCUPANCY SENSORS ON THE CONTRACT DOCUMENT IS FOR INFORMATION ONLY. THE OCCUPANCY SENSOR SUPPLIER SHALI FURNISH SHOP DRAWINGS AND PRINTED MATERIAL INDICATING LAYOUT OF SENSORS, RACEWAY, AND WIRING REQUIRED TO CONTROL THE LIGHTING INDICATED ON THE CONTRACT DRAWINGS. NO CHANGE ORDER WILL BE ALLOWED FOR ADDITIONAL SENSORS, RACEWAY, WIRING, POWER SUPPLIES, SATELLITE RELAYS, ETC., REQUIRED ON SHOP DRAWINGS BY THE OCCUPANCY SENSOR SUPPLIER. POWER SUPPLIES ARE NOT SHOWN ON THE LIGHTING PLANS, BUT ARE REQUIRED FOR OPERATION OF THE OCCUPANCY SENSORS AND MUST BE INCLUDED AS PART OF THE BASE BID FOR THIS PROJECT. SEE OCCUPANCY SENSOR DETAILS THIS SHEET.

INSTALLATION: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AIM SENSORS IN THE CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN THE RANGE OF COVERAGE(S) OF CONTROLLED AREAS PER THE MANUFACTURER'S RECOMMENDATIONS. PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE INSTALLATION SO AS TO ENSURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF STRUCTURAL COMPONENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ALL PROPER ADJUSTMENTS TO ASSURE OWNER'S SATISFACTION WITH THE OCCUPANCY SYSTEM. PROVIDE ALL POWER PACKS AND MOUNTING HARDWARE NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

OCCUPANCY SENSOR TIME DELAY SETTINGS: FIELD VERIFY DELAY SETTINGS FOR ALL OCCUPANCY SENSORS WITH THE OWNER PRIOR TO FINAL SETUP. RECOMMENDED DELAY SETTINGS ARE AS FOLLOWS:

- SET DELAY FOR ALL OCCUPANCY SENSORS LOCATED IN CORRIDORS, GROUP TOILETS, LOCKER ROOMS, SHOWER ROOMS, AND LABORATORIES TO 20 MINUTES UNLESS NOTED OTHERWISE ON THE DRAWINGS (FIELD VERIFY WITH OWNER).
- SET DELAY FOR OCCUPANCY SENSOR LOCATED IN ELECTRICAL ROOMS AND MECHANICAL ROOMS TO 30 MINUTES UNLESS NOTED OTHERWISE ON THE DRAWINGS (FIELD VERIFY WITH OWNER).
- SET DELAY FOR ALL OTHER OCCUPANCY SENSORS TO 10 MINUTES UNLESS NOTED OTHERWISE ON THE DRAWINGS (FIELD VERIFY)

DUAL TECHNOLOGY SENSORS: SET TRIGGER FOR DUAL TECHNOLOGY SENSORS SO BOTH TECHNOLOGIES ARE REQUIRED TO TRIGGER ON, EITHER TECHNOLOGY IS REQUIRED TO HOLD ON, AND EITHER TECHNOLOGY IS REQUIRED TO RETRIGGER ON (5 SECOND DURATION).

<u>VERIFICATION AND TRAINING:</u> IT SHALL BE THE MANUFACTURER'S RESPONSIBILITY TO VERIFY ALL PROPER ADJUSTMENTS AND TRAIN OWNER'S PERSONNEL TO ENSURE OWNERS SATISFACTION WITH THE OCCUPANCY SYSTEM. THIS SERVICE SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER OR THE ARCHITECT/ENGINEER. TRAINING SESSION TO INCLUDE REPRESENTATIVES FROM THE END USER, THE OWNER, THE ENGINEER, AND THE OWNER'S MAINTENANCE PERSONNEL. THE TRAINING SESSION SHALL NOT BE SCHEDULED UNTIL AFTER COMMISSIONING HAS BEEN COMPLETED AND HAS BEEN REVIEWED IN WRITING BY THE ENGINEER. THE TRAINING SESSION MUST BE SCHEDULED IN WRITING A MINIMUM OF TEN DAYS IN ADVANCE — FAILURE TO DO SO MAY RENDER THE TRAINING NULL & VOID AND REQUIRE RE-TRAINING AT NO ADDITIONAL COST TO THE OWNER OR THE ARCHITECT/ENGINEER.

COMMISSIONING: UPON COMPLETION OF THE INSTALLATION, THE OCCUPANCY SENSORS SHALL BE COMPLETELY COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A TROUBLE-FREE OCCUPANCY-BASED LIGHTING CONTROL SYSTEM. THIS SERVICE IS PROVIDED AT NO ADDITIONAL COST TO THE OWNER. THE ELECTRICAL CONTRACTOR SHALL PROVIDE BOTH THE MANUFACTURER AND THE ELECTRICAL ENGINEER WITH TEN WORKING DAYS WRITTEN NOTICE OF THE SCHEDULED COMMISSIONING DATE - FAILURE TO DO SO MAY RENDER THE COMMISSIONING NULL & VOID AND REQUIRE RE-COMMISSIONING AT NO ADDITIONAL COST TO THE OWNER. UPON COMPLETION OF THE SYSTEM FINE TUNING THE FACTORY AUTHORIZED TECHNICIAN SHALL PROVIDE THE PROPER TRAINING TO THE OWNER'S PERSONNEL IN THE ADJUSTMENT AND MAINTENANCE OF THE SENSORS (SEE ABOVE). COMMISSIONING AND TRAINING SHALL NOT BE PROVIDED UNTIL INSTALLATION IS COMPLETE. SEE LOW VOLTAGE SWITCHING SYSTEM SPECIFICATIONS AND NOTES FOR ADDITIONAL LIGHTING CONTROLS COMMISSIONING REQUIREMENTS.

**ELECTRICAL DEMOLITION NOTES** 

SITUATIONS WHERE AN ITEM IS TO BE REMOVED, WHETHER IT HAPPENS

. IT IS THE GENERAL INTENTION OF THESE DRAWINGS TO COVER ALL

PRIOR TO SUBMITTING BID. THE CONTRACTOR SHALL SURVEY THE

EXISTING BUILDING AND MAKE NOTE OF ANY ADDITIONAL DEMOLITION

AND/OR ANY ADDITIONAL REMOVAL AND RELOCATION WHICH MAY BE

DOCUMENTS. NO CHANGE ORDER WILL BE ISSUED FOR ADDITIONAL

WORK REQUIRED FOR DEMOLITION, REMOVAL, OR RELOCATION WORK

NOT INDICATED ON THESE DRAWINGS BUT NECESSARY TO COMPLETE

NO EXISTING ELECTRICAL MATERIALS, EQUIPMENT, WIRING, OR CONDUIT

SPECIFICALLY NOTED OTHERWISE ON THESE DRAWINGS. ALL EXISTING

ELECTRICAL MATERIALS AND EQUIPMENT NOT BEING REUSED SHALL BE

BEING REMOVED MAY BE REUSED ON THIS PROJECT UNLESS

DISPOSED OF AS INDICATED IN GENERAL NOTES.

REQ'D IN ORDER TO ACCOMPLISH RENOVATIONS INDICATED IN CONTRACT

TO BE A LIGHT FIXTURE, OR OTHER ELECTRICAL ITEM.

FINAL REVIEW: A FINAL REVIEW OF THE ELECTRICAL INSTALLATION BY THE ENGINEER CANNOT BE PROVIDED UNTIL THE OCCUPANCY SENSOR INSTALLATION HAS BEEN PROPERLY COMMISSIONED. THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE ENGINEER THAT THE OCCUPANCY SENSOR COMMISSIONING AND TRAINING HAS BEEN PROVIDED PRIOR TO REQUESTING A FINAL REVIEW.

CKT CIRCUIT

CU COPPER

POWER CONTROL STATION CLASS 2 \_\_\_\_\_ SENSING HEAD BLACK SaSb - ROOM SWITCHES LIGHTS LIGHTS BLACK SENSING HEAD BLUE WALL OR CEILING MOUNTED DUAL TECHNOLOGY SENSOR WITH POWER PACK. WATTSTOPPER DT-200 OR LEVITON OSW12-MOW CEILING MOUNTED DUAL TECHNOLOGY NOTES:

OCCUPANCY SENSOR DETAIL #1 (ALTERNATE NO. 1)

1. SET DELAY AT 10 MINUTES

2. MTG HEIGHT PER MFR's

RECOMMENDATIONS.

UNLESS NOTED OTHERWISE.

SENSOR WITH POWER PACK.

WATTSTOPPER DT-300 OR

LEVITON OSC20-MOW

CEILING MOUNTED ULTRASONIC

SENSOR WITH POWER PACK.

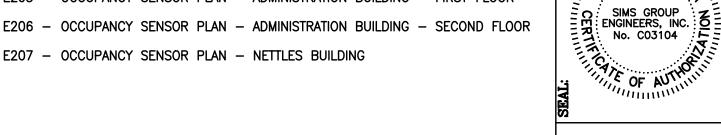
WATTSTOPPER WT-2200 (GROUP TOILETS)

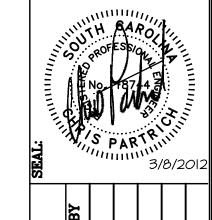
WATTSTOPPER WT-2250 (CORRIDORS)

OR EQUAL OF LEVITON OR HUBBELL

## **ELECTRICAL SHEET LIST**

- E001 ELECTRICAL SYMBOLS, NOTES, & DETAILS
- E002 FIXTURE SCHEDULES
- E003 FIXTURE SCHEDULES
- E101 LIGHTING PLAN B/A BUILDING
- E102 LIGHTING PLAN SCIENCE BUILDING
- E103 LIGHTING PLAN STUDENT UNION BUILDING E104 - LIGHTING PLAN - SCHWARTZ BUILDING
- E105 LIGHTING PLAN ADMINISTRATION BUILDING FIRST FLOOR
- E106 LIGHTING PLAN ADMINISTRATION BUILDING SECOND FLOOR
- E107 LIGHTING PLAN NETTLES BUILDING
- E201 OCCUPANCY SENSOR PLAN B/A BUILDING
- E202 OCCUPANCY SENSOR PLAN SCIENCE BUILDING
- E203 OCCUPANCY SENSOR PLAN STUDENT UNION BUILDING E204 - OCCUPANCY SENSOR PLAN - SCHWARTZ BUILDING
- E205 OCCUPANCY SENSOR PLAN ADMINISTRATION BUILDING FIRST FLOOR
- E206 OCCUPANCY SENSOR PLAN ADMINISTRATION BUILDING SECOND FLOOR





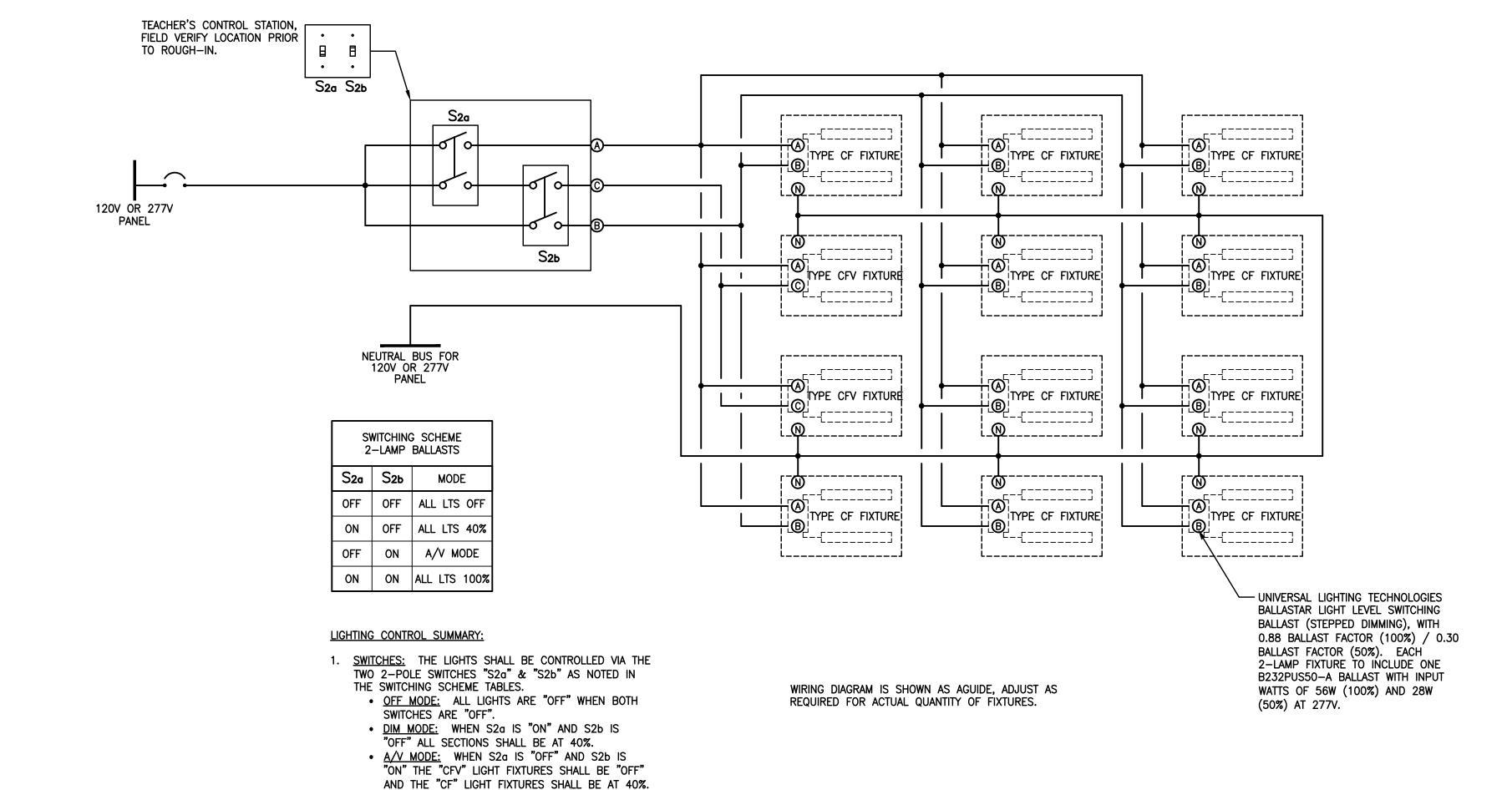
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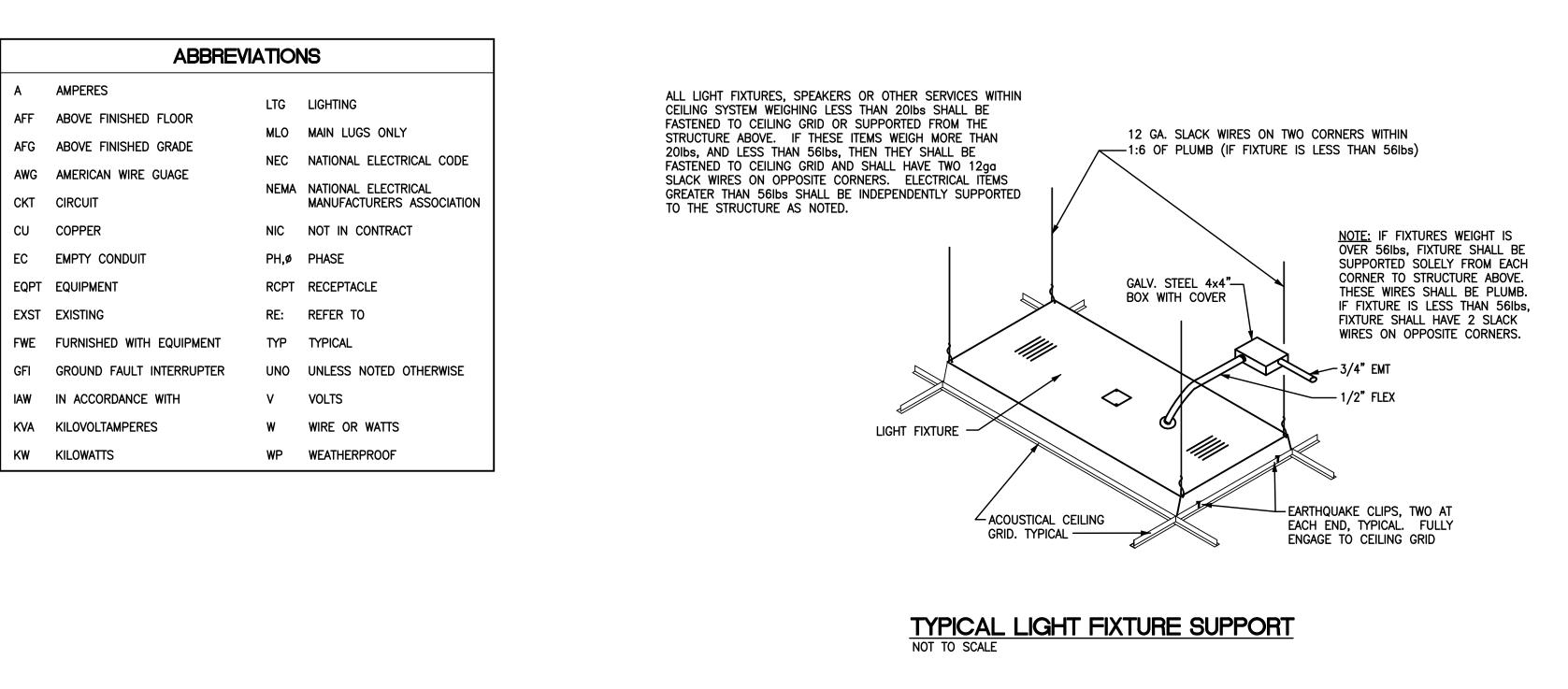
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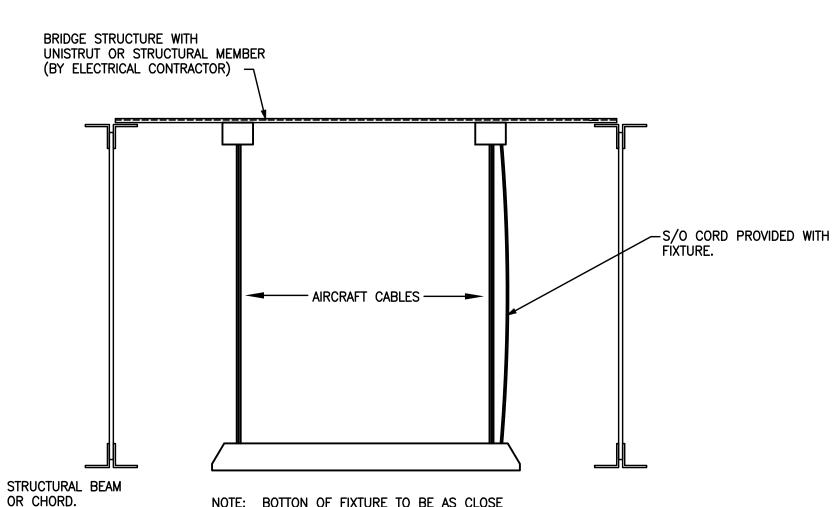
NOT TO SCALE

BID SET SIMS GROUP ENGINEERS, INC. 800 Columbiana Drive, Suite 208 Irmo, South Carolina 29063

SHEET IN SET: Phone: (803) 765-1007 Fax: (803) 765-1030 OF 17 www.simsgroupusa.com







GYM FIXTURE MOUNTING DETAIL

NOTE: BOTTON OF FIXTURE TO BE AS CLOSE

TO BOTTOM OF TRUSS OR BEAM AS POSSIBLE.

SCHWARTZ BUILDING ROOM 127 SWITCHING/WIRING DIAGRAM - RECESSED TROFFERS

NOTE 11	SCIENCE NOTE 11			LIGHTING FIXTURE	SCHEDULE - SCIENCE + B/A BUILDII	NGS	
EST QTY	EST QTY	TYPE	VOLTAGE	DESCRIPTION	MANUFACTURERS	LAMP	WATTS (120/277)
173	212	AA	MVOLT	2x4 4-LAMP TO 3-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALT0	82 (28+54)
				NEW 2x4 3—LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B132IUNVHP—A (ONE LAMP), AND B232IUNVHP—A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB2/1(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
8	8	AA1	MVOLT	SAME AS TYPE "AA" EXCEPT RETROFIT KIT WITH ONE TRIAD B332IUNVHP-A INSTANT START BALLAST.  - OR -	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLAST AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALT0	81
				SAME AS TYPE "A" EXCEPT NEW FIXTURE WITH ONE TRIAD B332IUNVHP—A INSTANT START BALLAST.	WILLIAMS LPT-24-332-S-A12125-EB3(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
12	12	AB	MVOLT	SAME AS TYPE "AA1", EXCEPT DROPPED LENS TO BE REMOVED AND REPLACED WITH NEW 0.125" A12 LENS.  - OR -	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLAST AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	81
				SAME AS TYPE "AA1".	WILLIAMS LPT-24-332-S-A12125-EB3(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
23	21	AC	MVOLT	2x2 4 LAMP TO 3-LAMP T8 LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-22-W-3LT8-V OR SMART LIGHTING SOLUTIONS 202 SERIES 2023-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F17T8/TL841/PLUS/ALTO	46
				NEW 2x2 3—LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B332IUNVHP—A INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-22-317-S-A12125-EB3(TRIAD)-UNV, LITHONIA SP8G-317-A12125-MVOLT-EB(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F17T8/TL841/PLUS/ALTO	
2	6	AD	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 4 FT SURFACE WRAPAROUND WITH ULT TRIAD B232IUNVHP-B INSTANT START BALLAST.	WILLIAMS 17-4-232-A-EB2(TRIAD)-UNV, LITHONIA LB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	54
9	18	AE	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 8 FT SURFACE WRAPAROUND WITH ULT TRIAD B432IUNVHP-A INSTANT START BALLAST.	WILLIAMS 17-8-432-A-EB4(TRIAD)-UNV, LITHONIA TLB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	4/F32T8/TL841/PLUS/ALTO	106
2		AFC	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH CEILING MOUNTED COMPACT FLUORESCENT JELLY JAR WITH MVOLT ELECTRONIC BALLAST.	GUTH VPC-13T-S-GLO OR EQUIVALENT OF GE OR STONCO	1/PLT13W/841/4P/X/ALTO	16
6		AFW	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH WALL MOUNTED COMPACT FLUORESCENT JELLY JAR WITH MVOLT ELECTRONIC BALLAST.	GUTH VPW-13T-S-GLO OR EQUIVALENT OF GE OR STONCO	1/PLT13W/841/4P/X/ALTO	16
8	8	AG	MVOLT	EXISTING LENSED INCANDESCENT DOWNLIGHT TO BE RETROFITTED TO 13W COMPACT FLUORESCENT.	DELRAY LIGHTING RV7.5113.A30 RETROFIT KIT.  CONTRACTOR MUST FIELD VERIFY DIMENSIONS OF  EXISTING DOWNLIGHT PRIOR TO ORDERING DOWNLIGHT  RETROFIT KIT AS CATALOG NUMBER MAY CHANGE  DEPENDING ON ACTUAL DIMENSIONS.	1/PLT13W/841/4P/X/ALTO	16
14	15	AH	MVOLT	HIGH PERFORMANCE EXTERIOR WALL MTD LED FIXTURE WITH MEDIUM THROW OPTICS, DIE—CAST HOUSING, INTEGRAL DEMAND—RESPONSE PIR SENSOR WITH DELAY SET TO 15 MINUTES, 43K NATURAL WHITE LEDS, MEMORY—RETENTIVE GASKET, DIFFUSING LENS, BRONZE.	GARDCO 121-MRM-MT-50LA-NW-UNIV-OC-DL-D15 OR BEACON TRAVERSE TRV-D-24G-60-T3-UNV-IPF-MDD-BZ.	INCLUDED	50
6	9	AXC	120/277	REMOVE EXISTING EXIT LIGHT AND REPLACE WITH NEW CEILING MOUNT LED EXIT LIGHT WITH WHITE POLYCARBONATE HOUSING, RED DIFFUSER, NICAD BATTERY, SELF DIAGNOSTICS.	MCPHILBEN CXXL-1-R-W, LITHONIA LQM-S-W-3R-120/277-ELN-SD, OR EQUIVALENT OF DUALLITE LT SERIES.	INCLUDED	
		AXD	120/277	SAME AS TYPE XC, EXCEPT DOUBLE SIDED.	ADJUST CATALOG NUMBERS FOR DOUBLE-SIDED EXIT.	INCLUDED	

FIXTURE	SCHEDULE	NOTES

- . FIXTURE BODIES MANUFACTURED FROM PRE-PAINTED STEEL SHALL BE PAINTED AFTER FABRICATION, UNLESS NOTED.
- 2. LINEAR FLUORESCENT ELECTRONIC BALLASTS SHALL HAVE A MINIMUM POWER FACTOR OF 0.90 AND A THD < 10%, AS MANUFACTURED BY UNIVERSAL LIGHTING TECHNOLOGIES (TRIAD FOR NON-DIMMED & BALLASTAR FOR STEPPED DIMMING). EQUIVALENT BALLASTS BY ADVANCE, GE, OR OSRAM-SYLVANIA ARE ACCEPTABLE PROVIDED THE PERFORMANCE IS EQUAL TO OR BETTER THAN THE SPECIFIED BALLAST. ALL FLUORESCENT BALLAST SHALL BE WIRED USING A DISCONNECT PLUG DESIGNED IN ACCORDANCE WITH NEC 410.130(G).
- NON-DIMMED BALLAST (120V/277V) 50/100 STEPPED BALLAST (120V/277V) 1-LAMP: ULT TRIAD B132IUNVHE-A (28W/28W) ULT BALLASTAR B232PUS50-A (29W/29W) 2-LAMP: ULT TRIAD B232IUNVHE-A (55W/54W) ULT BALLASTAR B232PUS50-A (57W/56W)
- 3-LAMP: ULT TRIAD B332IUNVHE-A (83W/81W) NOT APPLICABLE
- 4-LAMP: ULT TRIAD B432IUNVHE-A (109W/106W) NOT APPLICABLE
- 3. ALL LINEAR FLUORESCENT LAMPS SHALL BE PHILIPS EXTRA—LONG LIFE T8 LAMPS WITH ALTO II TECHNOLOGY, LOW MERCURY (1.7MG), 95% LUMEN MAINTENANCE, 85 CRI, 4100K COLOR TEMPERATURE, AND SHALL HAVE A MINIMUM INITIAL LIGHT OUTPUT RATING OF 2950 LUMENS T8 LAMPS TO HAVE AN AVERAGE LIFE RATING OF 40,000 HOURS WHEN OPERATED ON A PROGRAMMED START BALLAST AND 36,000 HOURS WHEN STARTED ON AN INSTANT START BALLAST, BASED ON 3-HOURS PER START.
- 4. NOMINAL THICKNESS OF FLUORESCENT FIXTURE LENSES SHALL BE 0.125", UNLESS NOTED OTHERWISE.
- 5. REFER TO EXISTING CONDITIONS FOR CEILING TYPES.
- 6. WIRE RECESSED FLUORESCENT FIXTURES THRU GREENFIELD FROM OUTLET BOX ABOVE CEILING.
- 7. PULL UNSWITCHED HOT LEG TO ALL EXIT AND EMERGENCY BATTERY LIGHTS AS REQD. ALL EMERGENCY BATTERIES SHALL BE SEALED, MAINTENANCE-FREE, HIGH TEMPERATURE NICKEL CADMIUM BATTERIES, UNLESS NOTED. SELF-CONTAINED EMERGENCY LIGHTING FOR FLUORESCENT FIXTURES SHALL HAVE A MINIMUM OF 1400 LUMENS OUTPUT FOR 90 MINUTES. BATTERIES TO BE BODINE B50U OR EQUIVALENT BY IOTA, DUALLITE, SURELITE, OR CHLORIDE.
- 8. LOW VOLTAGE SWITCHING AND OCCUPANCY SENSORS PROVIDE ALL POWER PACKS AND MOUNTING HARDWARE NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. SEE SPECIFICATIONS, DETAILS, AND LOW VOLTAGE SWITCHING SCHEDULES.
- 9. ALL GYMNASIUM EXIT AND EMERGENCY LIGHTS SHALL BE PROVIDED WITH WIRE GUARDS UNLESS NOTED OTHERWISE.
- 10. REFER TO DRAWINGS AND DETAIL ON SHEET E601 FOR A/V MODE CLASSROOM WIRING.
- 11. FIXTURE QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXACT COUNTS PRIOR TO

IOTE 11 EST		<del>                                     </del>		SCHEDULE - STUDENT UNION BUILD		WATTS
QTY	TYPE	VOLTAGE	DESCRIPTION	MANUFACTURERS	LAMP	WATTS (120/277)
63	BA	MVOLT	2x4 4-LAMP TO 3-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.  - OR -	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	82 (28+54)
			NEW 2x4 3—LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B132IUNVHP—A (ONE LAMP), AND B232IUNVHP—A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB2/1(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
1	BAE	MVOLT	SAME AS TYPE "A", EXCEPT WITH 1400 LUMEN EMERGENCY BATTERY PACK.	MODIFY CATALOG NUMBERS TO INCLUDE EMERGENCY BATTERY PACK.	3/F32T8/TL841/PLUS/ALTO	82 (28+54)
13	BB	MVOLT	2x2 4 LAMP TO 3-LAMP T8 LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-22-W-3LT8-V OR SMART LIGHTING SOLUTIONS 202 SERIES 2023-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F17T8/TL841/PLUS/ALTO	46
			NEW 2x2 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-22-317-S-A12125-EB3(TRIAD)-UNV, LITHONIA SP8G-317-A12125-MVOLT-EB(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F17T8/TL841/PLUS/ALTO	
29	ВС	MVOLT	EXISTING 4—LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B432IUNVHP—A (FOUR LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.	EXISTING FIXTURE TO REMAIN, RETROFIT AS NOTED.	4/F32T8/TL841/PLUS/ALTO	106
6	BCE	MVOLT	SAME AS TYPE "BC", EXCEPT WITH 1400 LUMEN EMERGENCY BATTERY PACK.	MODIFY CATALOG NUMBER TO INCLUDE EMERGENCY BATTERY PACK.	4/F32T8/TL841/PLUS/ALTO	106
15	BD	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 4 FT SURFACE WRAPAROUND WITH ULT TRIAD B232IUNVHP-B INSTANT START BALLAST.	WILLIAMS 17-4-232-A-EB2(TRIAD)-UNV, LITHONIA LB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	54
5	BE	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 8 FT SURFACE WRAPAROUND WITH ULT TRIAD B432IUNVHP-A INSTANT START BALLAST.	WILLIAMS 17-8-432-A-EB4(TRIAD)-UNV, LITHONIA TLB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	4/F32T8/TL841/PLUS/ALTO	106
42	BF	MVOLT	SAME AS TYPE "BA" EXCEPT RETROFIT KIT WITH ONE TRIAD B332IUNVHP—A INSTANT START BALLAST.  — OR —	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLAST AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	81
			SAME AS TYPE "A" EXCEPT NEW FIXTURE WITH ONE TRIAD B332IUNVHP—A INSTANT START BALLAST.	WILLIAMS LPT-24-332-S-A12125-EB3(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
11	BFE	MVOLT	SAME AS TYPE "BF", EXCEPT INCLUDE 1400 LUMEN EMERGENCY BATTERY PACK WITH RETROFIT KIT.  - OR -	MODIFY CATALOG NUMBERS TO INCLUDE EMERGENCY BATTERY PACK.	3/F32T8/TL841/PLUS/ALTO	81
			SAME AS TYPE "BF", EXCEPT INCLUDE 1400 LUMEN EMERGENCY BATTERY PACK WITH NEW FIXTURE.	MODIFY CATALOG NUMBERS TO INCLUDE EMERGENCY BATTERY PACK.	3/F32T8/TL841/PLUS/ALTO	
11	BG	MVOLT	EXISTING LENSED INCANDESCENT DOWNLIGHT TO BE RETROFITTED TO 13W COMPACT FLUORESCENT.	DELRAY LIGHTING RV6113.A30 RETROFIT KIT.  CONTRACTOR MUST FIELD VERIFY DIMENSIONS OF EXISTING DOWNLIGHT PRIOR TO ORDERING DOWNLIGHT RETROFIT KIT AS CATALOG NUMBER MAY CHANGE DEPENDING ON ACTUAL DIMENSIONS.	1/PLT13W/841/4P/X/ALTO	16
5	ВН	MVOLT	HIGH PERFORMANCE EXTERIOR WALL MTD LED FIXTURE WITH MEDIUM THROW OPTICS, DIE-CAST HOUSING, INTEGRAL DEMAND-RESPONSE PIR SENSOR WITH DELAY SET TO 15 MINUTES, 43K NATURAL WHITE LEDS, MEMORY-RETENTIVE GASKET, DIFFUSING LENS, BRONZE.	GARDCO 121-MRM-MT-50LA-NW-UNIV-OC-DL-D15 OR BEACON TRAVERSE TRV-D-24G-60-T3-UNV-IPF-MDD-BZ.	INCLUDED	50
16	I,J BK	N/A MVOLT	NOT USED  EXISTING INCANDESCENT DOWNLIGHT TO BE RETROFITTED TO 13W COMPACT FLUORESCENT.	N/A  DELRAY LIGHTING RV6113.A30 RETROFIT KIT.  CONTRACTOR MUST FIELD VERIFY DIMENSIONS OF EXISTING DOWNLIGHT PRIOR TO ORDERING DOWNLIGHT RETROFIT KIT AS CATALOG NUMBER MAY CHANGE DEPENDING ON ACTUAL DIMENSIONS.	N/A 1/PLT13W/841/4P/X/ALTO	N/A 16
2	BL	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH CEILING MOUNTED COMPACT FLUORESCENT JELLY JAR WITH MVOLT ELECTRONIC BALLAST.	GUTH VPC-13T-S-GLO OR EQUIVALENT OF GE OR STONCO	1/PLT13W/841/4P/X/ALTO	16
24	ВМ	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH NEW STRIP LIGHT FIXTURE IN LENGTHS AS DIRECTED ON DRAWINGS.	WILLIAMS 76-4-232-EB2-UNV OR EQUIVALENT OF COLUMBIA, METALUX, OR LITHONIA.	2/F32T8/TL841/PLUS/ALTO	54
2	BN	MVOLT	EXISTING 4-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B432IUNVHP-A (FOUR LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.	EXISTING FIXTURE TO REMAIN, RETROFIT AS NOTED.	4/F32T8/TL841/PLUS/ALTO	106
9	BXC	120/277	REMOVE EXISTING EXIT LIGHT AND REPLACE WITH NEW CEILING MOUNT LED EXIT LIGHT WITH WHITE POLYCARBONATE HOUSING, RED DIFFUSER, NICAD BATTERY, SELF DIAGNOSTICS.	MCPHILBEN CXXL-1-R-W, LITHONIA LQM-S-W-3R- 120/277-ELN-SD, OR EQUIVALENT OF DUALLITE LT SERIES	INCLUDED	
1	BXD	120/277	SAME AS TYPE XC, EXCEPT DOUBLE SIDED.	ADJUST CATALOG NUMBERS FOR DOUBLE-SIDED EXIT.	INCLUDED	
3	BXW	120/277	SAME AS TYPE XC, EXCEPT FLAT WALL MTD.	ADJUST CATALOG NUMBERS FOR FLAT WALL MTD. EXIT.	INCLUDED	

EST QTY	TYPE	VOLTAGE	DESCRIPTION	MANUFACTURERS	LAMP	WATTS (120/277)
35	CA1	MVOLT	2x4 4-LAMP TO 3-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.  - OR -	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	
			NEW 2x4 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB2/1(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
52	CA2	MVOLT	EXISTING 2-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALT0	54
			- OR -  NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB2(TRIAD)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	
147	СВ	MVOLT	2x4 3-LAMP TO 2-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST, LAMP SOCKETS, AND NEW 2-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.  - OR -	RENOVA LIGHTING EFK-24-W-2LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2042-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALTO	56
			NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB2(TRIAD)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX		
5	СС	MVOLT	2x2 2-U LAMP TO 3-LAMP T8 LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST, LAMP SOCKETS, AND NEW REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-22-W-3LT8-V SMART LIGHTING SOLUTIONS 202 SERIES 2023-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F17T8/TL841/PLUS/ALTO	46
			NEW 2x2 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B417IUNVHP-A INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN PER DETAIL SHEET E001.	WILLIAMS LPT-22-317-S-A12125-EB4(TRIAD)-UNV, OR EQUIVALENT OF LITHONIA, COLUMBIA OR METALUX	3/F17T8/TL841/PLUS/ALTO	
5	CD	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 4 FT SURFACE WRAPAROUND WITH ULT TRIAD B232IUNVHP-B INSTANT START BALLAST.	WILLIAMS 17-4-232-A-EB2(TRIAD)-UNV, LITHONIA LB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	54
29	CF	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT BALLASTAR B232PUS50-A STEPPED BALLASTS WIRED FOR DUAL SWITCHING. NEW FIXTURE SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB2(BALLASTAR)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-EB(BALLASTAR)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	56
4	CFV	277	SAME AS TYPE "CF", EXCEPT FIXTURE WIRED TO SHUT "OFF" IN A/V MODE, SEE DETAIL FOR SWITCHING.	CATALOG NUMBERS IDENTICAL TO TYPE "CF" FIXTURE.	2/F32T8/TL841/PLUS/ALTO	56
3	CG	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH CEILING MOUNTED COMPACT FLUORESCENT JELLY JAR WITH MVOLT ELECTRONIC BALLAST.	GUTH VPC-13T-S-GLO OR EQUIVALENT OF GE OR STONCO	1/PLT13W/841/X/4P/ALTO	16
2	СН	MVOLT	HIGH PERFORMANCE EXTERIOR WALL MTD LED FIXTURE WITH MEDIUM THROW OPTICS, DIE—CAST HOUSING, INTEGRAL DEMAND—RESPONSE PIR SENSOR WITH DELAY SET TO 15 MINUTES, 43K NATURAL WHITE LEDS, MEMORY—RETENTIVE GASKET, DIFFUSING LENS, BRONZE.	GARDCO 121-MRM-MT-50LA-NW-UNIV-OC-DL-D15 OR BEACON TRAVERSE TRV-D-24G-60-T3-UNV-IPF-MDD-BZ.	INCLUDED	50
10	CXC	N/A 120/277	NOT USED  REMOVE EXISTING EXIT LIGHT AND REPLACE WITH NEW CEILING MOUNT LED EXIT LIGHT WITH WHITE POLYCARBONATE HOUSING, RED DIFFUSER, NICAD BATTERY,	N/A  MCPHILBEN CXXL-1-R-W, LITHONIA LQM-S-W-3R- 120/277-ELN-SD, OR EQUIVALENT OF DUALLITE LT SERIES	N/A INCLUDED	N/A 

BID SET

SHEET IN SET:

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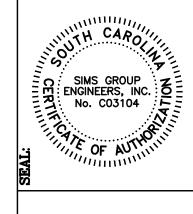
OTE 11 EST QTY	TYPE	VOLTAGE		SCHEDULE 'D' - ADMINISTRATION BUIL  MANUFACTURERS	LAMP	WATTS (120/277)
43	DA1	MVOLT	EXISTING 3-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B332IUNVHP-A (THREE LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.  - OR -	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	
			NEW 2x4 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A (THREE LAMP) INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB3(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
3	DA2	MVOLT	EXISTING 2-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.  - OR -	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALTO	54
			NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB2(TRIAD)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-GEB10IS(TRIAD)-PAF OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	
24	DA3	MVOLT	EXISTING 3-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH ONE ULT TRIAD B132IUNVHP-A (ONE LAMP) AND ONE B232IUNVHP-A (TWO LAMP) BALLAST WIRED FOR DUAL SWITCHING, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.  OR	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	82 (28+54)
			NEW 2x4 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB2/1(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
12	DA4	MVOLT	2x4 4-LAMP TO 3-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-24-W-3LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2043-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	82 (28+54)
			- OR -  NEW 2x4 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B132IUNVHP-A (ONE LAMP), AND B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB2/1(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
193	DB	MVOLT	2x4 3-LAMP TO 2-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT BALLASTAR B232PUS50-A STEPPED BALLAST WIRED FOR DUAL SWITCHING, LAMP SOCKETS, AND NEW 2-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.  - OR -	RENOVA LIGHTING EFK-24-W-2LT8(BALLASTAR)-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2042-W-T8(BALLASTAR)-TL7 (PROVIDE ULT BALLASTAR STEPPED BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALTO	56
			NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT BALLASTAR B232PUS50-A STEPPED BALLASTS WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB2(BALLASTAR)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-EB(BALLASTAR)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX		
50	DBB	MVOLT	2x4 3-LAMP TO 2-LAMP LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST, LAMP SOCKETS, AND NEW 2-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, LENS, AND MAGNETIC BALLAST SHALL BE REMOVED.  - OR -	RENOVA LIGHTING EFK-24-W-2LT8-V OR SMART LIGHTING SOLUTIONS 204 SERIES 2042-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALTO	54
			NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLASTS MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB2(TRIAD)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-GEB10IS(TRIAD)-PAF OR EQUIVALENT OF COLUMBIA OR METALUX		
5	DC	MVOLT	2x2 2-U LAMP TO 2-LAMP T8 LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT BALLASTAR B232PUS50-A STEPPED BALLAST WIRED FOR DUAL SWITCHING, LAMP SOCKETS, AND NEW 2-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-22-W-2LT8(BALLASTAR)-V OR SMART LIGHTING SOLUTIONS 202 SERIES 2022-W-T8(BALLASTAR)-TL7 (PROVIDE ULT BALLASTAR STEPPED BALLASTS AS NOTED IN DESCRIPTION)	2/F17T8/TL841/PLUS/ALTO	30
			NEW 2x2 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT BALLASTAR B232PUS50-A STEPPED BALLAST WIRED FOR DUAL SWITCHING MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-22-217-S-A12125-EB2(BALLASTAR)-UNV, LITHONIA SP8G-217-A12125-MVOLT-EB(BALLASTAR)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	2/F17T8/TL841/PLUS/ALTO	

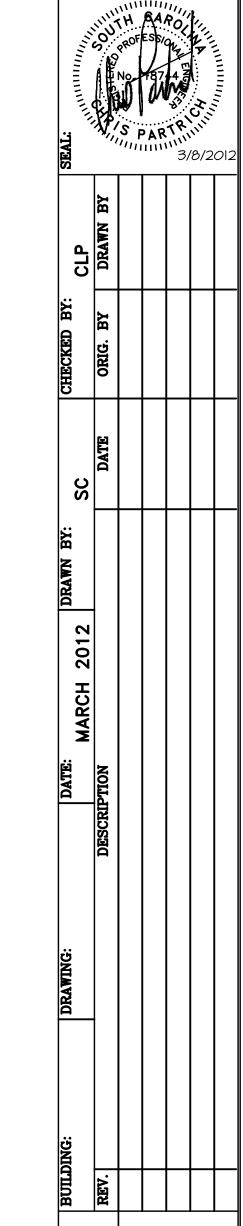
OTE 1	LIGHTING FIXTURE SCHEDULE 'D' - ADMINISTRATION BUILDING (Continued)								
EST QTY	TYPE	VOLTAGE	DESCRIPTION	MANUFACTURERS	LAMP	WATTS (120/277)			
5	DCC	MVOLT	2x2 2-U LAMP TO 3-LAMP T8 LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-22-W-3LT8-V OR SMART LIGHTING SOLUTIONS 202 SERIES 2023-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F17T8/TL841/PLUS/ALTO	46			
			- OR -  NEW 2x2 3-LAMP SPEC GRADE T8 GRID  TROFFER, 0.125" A12 LENS, ULT TRIAD  B332IUNVHP-A INSTANT START BALLAST  MAY BE PROVIDED IN LIEU OF RETROFIT  KIT. IF NEW FIXTURE IS PROVIDED IT  SHALL BE SUPPORTED AS SHOWN ON  DETAIL, SHEET E001.	WILLIAMS LPT-22-317-S-A12125-EB3(TRIAD)-UNV, LITHONIA SP8G-317-A12125-MVOLT-EB(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F17T8/TL841/PLUS/ALTO				
14	DD	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 4 FT SURFACE WRAPAROUND WITH ULT TRIAD B232IUNVHP—B INSTANT START BALLAST.	WILLIAMS 17-4-232-A-EB2(TRIAD)-UNV, LITHONIA LB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	54			
2	DE	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 8 FT SURFACE WRAPAROUND WITH ULT TRIAD B432IUNVHP-B INSTANT START BALLAST.	WILLIAMS 17-8-432-A-EB4(TRIAD)-UNV, LITHONIA TLB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	4/F32T8/TL841/PLUS/ALTO	106			
7	DF	MVOLT	EXISTING WALL MTD FIXTURE TO REMAIN. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED AND REPLACED WITH ULT TRIAD B232IUNVHP-B INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS AS DIR'D. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALTO	54			
2	DG	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH CEILING MOUNTED COMPACT FLUORESCENT JELLY JAR WITH MVOLT ELECTRONIC BALLAST.	GUTH VPC-13T-S-GLO OR EQUIVALENT OF GE OR STONCO	1/PLT13W/841/X/4P/ALTO	16			
18	DH	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 4 FT SURFACE STRIP LIGHT WITH ULT TRIAD B232IUNVHP-B INSTANT START BALLAST.	WILLIAMS 76-4-232-EB2(TRIAD)-UNV, LITHONIA C-232-MVOLT(TRIAD)-GEB10IS, OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	54			
	DI,DJ	N/A	NOT USED	N/A	N/A	N/A			
2	DK	MVOLT	HIGH PERFORMANCE EXTERIOR WALL MTD LED FIXTURE WITH MEDIUM THROW OPTICS, DIE—CAST HOUSING, INTEGRAL DEMAND— RESPONSE PIR SENSOR WITH DELAY SET TO 15 MINUTES, 43K NATURAL WHITE LEDS, MEMORY—RETENTIVE GASKET, DIFFUSING LENS, STANDARD COLOR AS SELECTED BY OWNER.	GARDCO 121-MRM-MT-50LA-NW-UNIV-OC-DL-D15 OR BEACON TRAVERSE SERIES TRV-D-24-G-60-T3-UNV-1PF-MDD-BZ.	INCLUDED	50			
10	DXC	120/277	REMOVE EXISTING EXIT LIGHT AND REPLACE WITH NEW CEILING MOUNT COMBINATION LED EXIT AND EMERGENCY BATTERY LIGHT WITH WHITE POLYCARBONATE HOUSING, RED DIFFUSER, NICAD BATTERY, SELF DIAGNOSTICS.	MCPHILBEN CCAXL-3-R-W, LITHONIA LHQM-S-W-3R-120/277-N, OR EQUIVALENT OF DUALLITE LT SERIES.	INCLUDED				
10	DXD	120/277	SAME AS TYPE "XC", EXCEPT DOUBLE SIDED.	ADJUST CATALOG NUMBERS FOR DOUBLE-SIDED EXIT.	INCLUDED				

	FIXTURE SCHEDULE NOTES						
1.	FIXTURE BODIES MANUFACTURED FROM PRE-PAINTED STEEL SHALL BE PAINTED AFTER FABRICATION, UNLESS NOTED.						
2.	LINEAR FLUORESCENT ELECTRONIC BALLASTS SHALL HAVE A MINIMUM POWER FACTOR OF 0.90 AND A THD < 10%, AS MANUFACTURED BY UNIVERSAL LIGHTING TECHNOLOGIES (TRIAD FOR NON-DIMMED & BALLASTAR FOR STEPPED DIMMING). EQUIVALENT BALLASTS BY ADVANCE, GE, OR OSRAM-SYLVANIA ARE ACCEPTABLE PROVIDED THE PERFORMANCE IS EQUAL TO OR BETTER THAN THE SPECIFIED BALLAST. ALL FLUORESCENT BALLAST SHALL BE WIRED USING A DISCONNECT PLUG DESIGNED IN ACCORDANCE WITH NEC 410.130(G).						
	NON-DIMMED BALLAST (120V/277V) 50/100 STEPPED BALLAST (120V/277V)  1-LAMP: ULT TRIAD B132IUNVHE-A (28W/28W) ULT BALLASTAR B232PUS50-A (29W/29W)  2-LAMP: ULT TRIAD B232IUNVHE-A (55W/54W) ULT BALLASTAR B232PUS50-A (57W/56W)  3-LAMP: ULT TRIAD B332IUNVHE-A (83W/81W) NOT APPLICABLE  4-LAMP: ULT TRIAD B432IUNVHE-A (109W/106W) NOT APPLICABLE						
3.	ALL LINEAR FLUORESCENT LAMPS SHALL BE PHILIPS EXTRA—LONG LIFE T8 LAMPS WITH ALTO II TECHNOLOGY, LOW MERCURY (1.7MG), 95% LUMEN MAINTENANCE, 85 CRI, 4100K COLOR TEMPERATURE, AND SHALL HAVE A MINIMUM INITIAL LIGHT OUTPUT RATING OF 2950 LUMENS T8 LAMPS TO HAVE AN AVERAGE LIFE RATING OF 40,000 HOURS WHEN OPERATED ON A PROGRAMMED START BALLAST AND 36,000 HOURS WHEN STARTED ON AN INSTANT START BALLAST, BASED ON 3—HOURS PER START.						
4.	NOMINAL THICKNESS OF FLUORESCENT FIXTURE LENSES SHALL BE 0.125", UNLESS NOTED OTHERWISE.						
5.	REFER TO EXISTING CONDITIONS FOR CEILING TYPES.						
6.	WIRE RECESSED FLUORESCENT FIXTURES THRU GREENFIELD FROM OUTLET BOX ABOVE CEILING.						
7.	PULL UNSWITCHED HOT LEG TO ALL EXIT AND EMERGENCY BATTERY LIGHTS AS REQD. ALL EMERGENCY BATTERIES SHALL BE SEALED, MAINTENANCE—FREE, HIGH TEMPERATURE NICKEL CADMIUM BATTERIES, UNLESS NOTED. SELF—CONTAINED EMERGENCY LIGHTING FOR FLUORESCENT FIXTURES SHALL HAVE A MINIMUM OF 1400 LUMENS OUTPUT FOR 90 MINUTES. BATTERIES TO BE BODINE B50U OR EQUIVALENT BY IOTA, DUALLITE, SURELITE, OR CHLORIDE.						
8.	LOW VOLTAGE SWITCHING AND OCCUPANCY SENSORS — PROVIDE ALL POWER PACKS AND MOUNTING HARDWARE NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. SEE SPECIFICATIONS, DETAILS, AND LOW VOLTAGE SWITCHING SCHEDULES.						
9.	ALL GYMNASIUM EXIT AND EMERGENCY LIGHTS SHALL BE PROVIDED WITH WIRE GUARDS UNLESS NOTED OTHERWISE.						
10.	REFER TO DRAWINGS AND DETAIL ON SHEET E601 FOR A/V MODE CLASSROOM WIRING.						
11.	FIXTURE QUANTITIES ARE FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXACT COUNTS PRIOR TO SUBMITTING BID.						

OTE 11 EST		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		RE SCHEDULE 'E' - NETTLES BUILDING		WATTS
QTY	TYPE	VOLTAGE	DESCRIPTION	MANUFACTURERS	LAMP	(120/277)
51	EA1	MVOLT	EXISTING 3-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B332IUNVHP-A (THREE LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.  - OR -	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F32T8/TL841/PLUS/ALTO	81
			NEW 2x4 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A (THREE LAMP) INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-332-S-A12125-EB3(TRIAD)-UNV, LITHONIA 2SP8G-332-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F32T8/TL841/PLUS/ALTO	
32	EA2	MVOLT	EXISTING 2-LAMP FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLASTS SHALL BE REMOVED AND REPLACED WITH NEW ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN. (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	2/F32T8/TL841/PLUS/ALTO	56
			- OR -  NEW 2x4 2-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B232IUNVHP-A (TWO LAMP) INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-24-232-S-A12125-EB3(TRIAD)-UNV, LITHONIA 2SP8G-232-A12125-MVOLT-GEB10IS(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	
1	ЕВ	MVOLT	2x2 2-U LAMP TO 3-LAMP T8 LENSED TROFFER RETROFIT KIT. KIT SHALL INCLUDE NEW 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST, LAMP SOCKETS, AND NEW 3-LAMP REFLECTOR. EXISTING T-12 LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED.	RENOVA LIGHTING EFK-22-W-3LT8-V OR SMART LIGHTING SOLUTIONS 202 SERIES 2023-W-T8-TL7 (PROVIDE BALLASTS AS NOTED IN DESCRIPTION)	3/F17T8/TL841/PLUS/ALTO	46
			NEW 2x2 3-LAMP SPEC GRADE T8 GRID TROFFER, 0.125" A12 LENS, ULT TRIAD B332IUNVHP-A INSTANT START BALLAST MAY BE PROVIDED IN LIEU OF RETROFIT KIT. IF NEW FIXTURE IS PROVIDED IT SHALL BE SUPPORTED AS SHOWN ON DETAIL, SHEET E001.	WILLIAMS LPT-22-317-S-A12125-EB3(TRIAD)-UNV, LITHONIA SP8G-317-A12125-MVOLT-EB(TRIAD)-PAF, OR EQUIVALENT OF COLUMBIA OR METALUX	3/F17T8/TL841/PLUS/ALTO	
17	EC	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH 4 FT SURFACE WRAPAROUND WITH ULT TRIAD B232IUNVHP-B INSTANT START BALLAST.	WILLIAMS 17-4-232-A-EB2(TRIAD)-UNV, LITHONIA LB-232-MVOLT(TRIAD), OR EQUIVALENT OF COLUMBIA OR METALUX	2/F32T8/TL841/PLUS/ALTO	54
28	ED	MVOLT	EXISTING 4' SURFACE FIXTURE TO REMAIN. EXISTING LAMPS, SOCKETS, AND MAGNETIC BALLAST SHALL BE REMOVED AND REPLACED WITH ULT TRIAD B232IUNVHP—B INSTANT START BALLAST, NEW LAMP SOCKETS, AND T8 LAMPS. EXISTING REFLECTOR AND LENS SHALL BE CLEANED.	EXISTING FIXTURE TO BE RETROFITTED AND REMAIN.	2/F32T8/TL841/PLUS/ALTO	54
3	EE	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH CEILING MOUNTED COMPACT FLUORESCENT JELLY JAR WITH MVOLT ELECTRONIC BALLAST.	GUTH VPC-13T-S-GLO OR EQUIVALENT OF GE OR STONCO	1/PLT13W/841/X/4P/ALTO	16
30	EF	MVOLT	FULL-SIDED FLUORESCENT HIGH BAY WITH 95% SPECULAR REFLECTOR, (6) T5HO LAMPS, AND WIREGUARD. VERIFY MOUNTING EQUIPMENT NEEDED AND PROVIDE ACCORDINGLY, SEE DETAIL ON E001.	WILLIAMSGL-4-654T5H-WD-WG11-GC2/Y18/5-57238/B-EB4/2-UNV, LITHONIA FGB24-654T5HO-S1X20-MVOLT-GEB10PS-PAF-WG-IBAC120M20, DAYBRITE FBD-6-54HO-UNV-1/42-EB-TBWGUARD-FBF/FBE-GRIPS, OR EQUIVALENT OF COLUMBIA OR METALUX.	6/F54T5/841/H0/ALTO	310
18	EG	MVOLT	2x2 MULTIPURPOSE RECESSED FIXTURE WITH (5) 50 WATT LONG TWIN TUBE LAMPS, HINGED DOOR FRAME, ELECTRONIC BALLASTS WITH 1.10 BALLAST FACTOR, AND CLEAR PRISMATIC TEMPERED GLASS LENS.	WILLIAMS MPG-22-550TT-RC73T-DFK2424-EB2/2/1-UNV OR EQUAL (PROVIDE BALLASTS AS NOTED IN DESCRIPTION).	5/PL-L/50W/841/4P/RS (USE 20,000 HOUR LAMP, 4300 INITIAL LUMENS)	326
8	EH	MVOLT	HIGH PERFORMANCE EXTERIOR WALL MTD LED FIXTURE WITH MEDIUM THROW OPTICS, DIE—CAST HOUSING, INTEGRAL DEMAND— RESPONSE PIR SENSOR WITH DELAY SET TO 15 MINUTES, 43K NATURAL WHITE LEDS, MEMORY—RETENTIVE GASKET, DIFFUSING LENS, STANDARD COLOR AS SELECTED BY OWNER.	GARDCO 121-MRM-MT-50LA-NW-UNIV-OC-DL-D15 OR BEACON TRAVERSE SERIES TRV-D-24-G-60-T3-UNV-1PF-MDD-BZ.	INCLUDED	50
	EI,EJ	N/A	NOT USED	N/A	N/A	N/A
9	EK	MVOLT	REMOVE EXISTING FIXTURE AND REPLACE WITH NEW SURFACE MOUNTED SQUARE FLUORESCENT FIXTURE WITH WET LOCATION LISTING, HIGH IMPACT RESISTANT LENS, AND ELECTRONIC BALLAST.	KENALL MS11FL—S—MB—13Q—2—DV OR EQUIVALENT OF NEWSTAR OF FAILSAFE.	2/PLT13W/841/4P/ALT0	28
9	EXC	120/277	REMOVE EXISTING EXIT LIGHT AND REPLACE WITH NEW CEILING MOUNT LED EXIT LIGHT WITH WHITE POLYCARBONATE HOUSING, RED DIFFUSER, NICAD BATTERY, SELF DIAGNOSTICS.	MCPHILBEN CXXL-1-R-W, LITHONIA LQM-S-W-3R- 120/277-ELN-SD, OR EQUIVALENT OF DUALLITE LT SERIES	INCLUDED 3.	
5	EXW	120/277	SAME AS "XC" EXCEPT FLAT WALL MOUNTED. "WG" DENOTES WIRE GUARD.	ADJUST CATALOG NUMBERS FOR FLAT WALL MOUNTED EXIT.	INCLUDED	





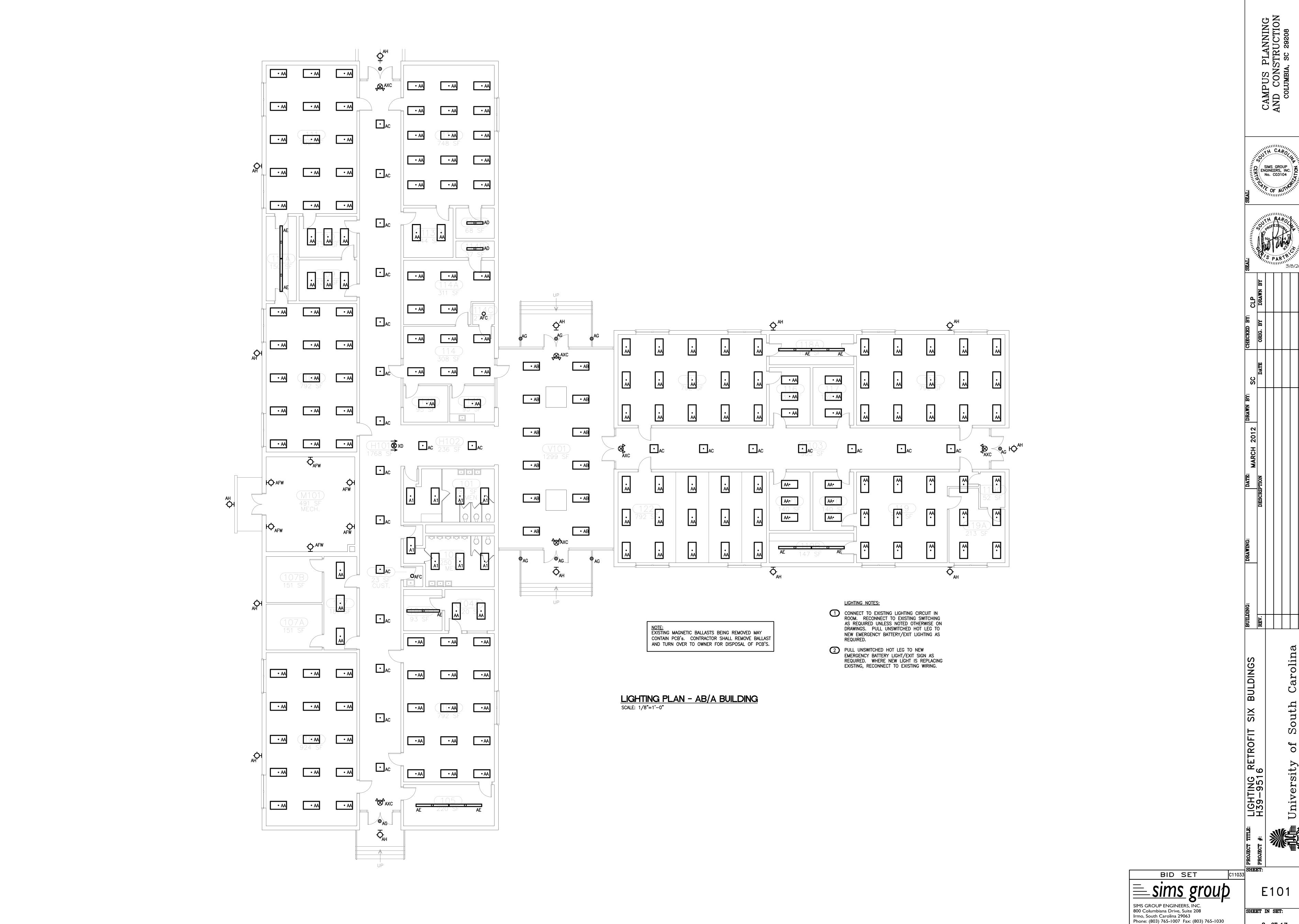


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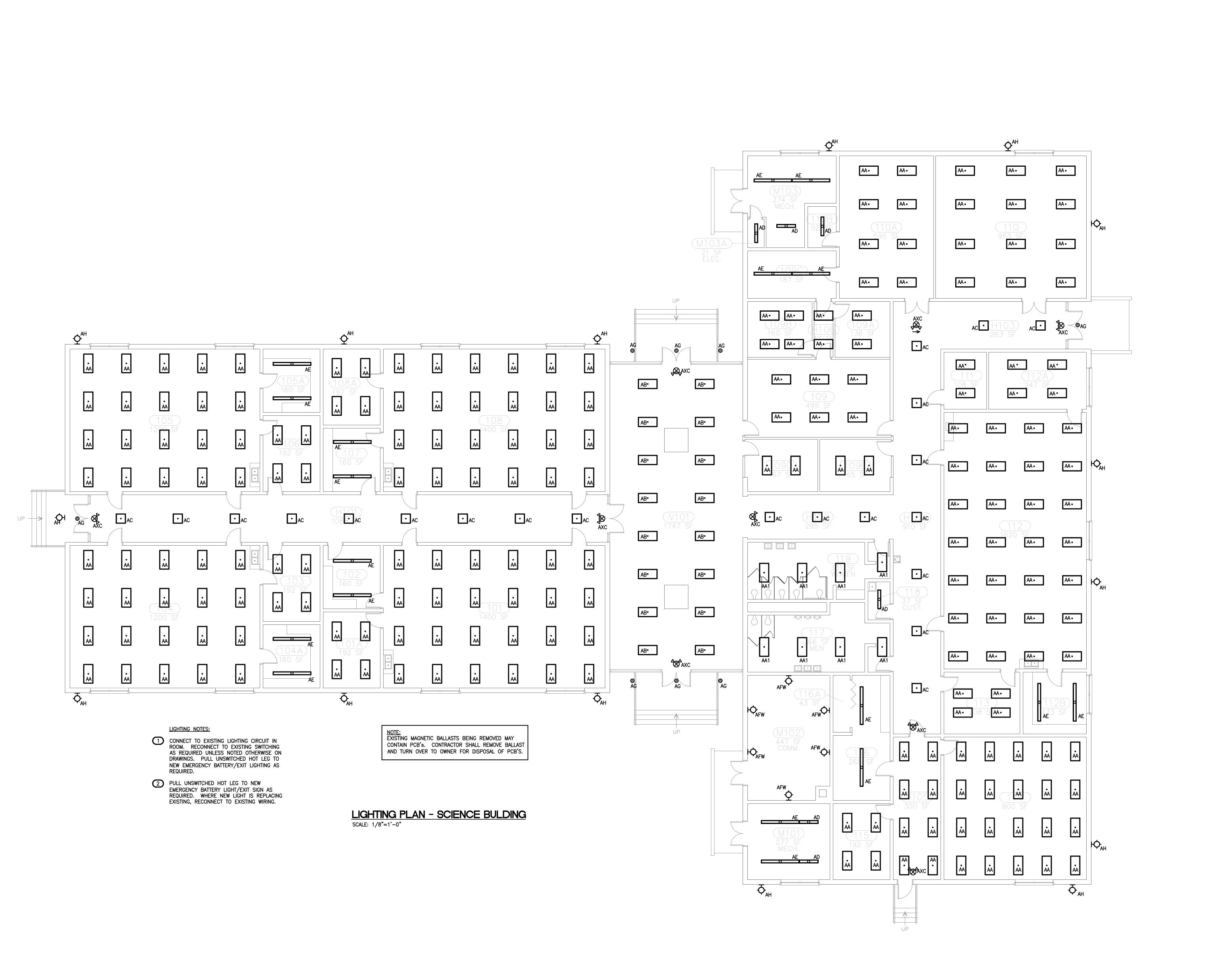
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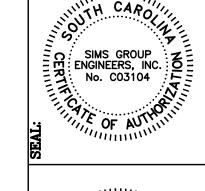


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SIX BULDINGS

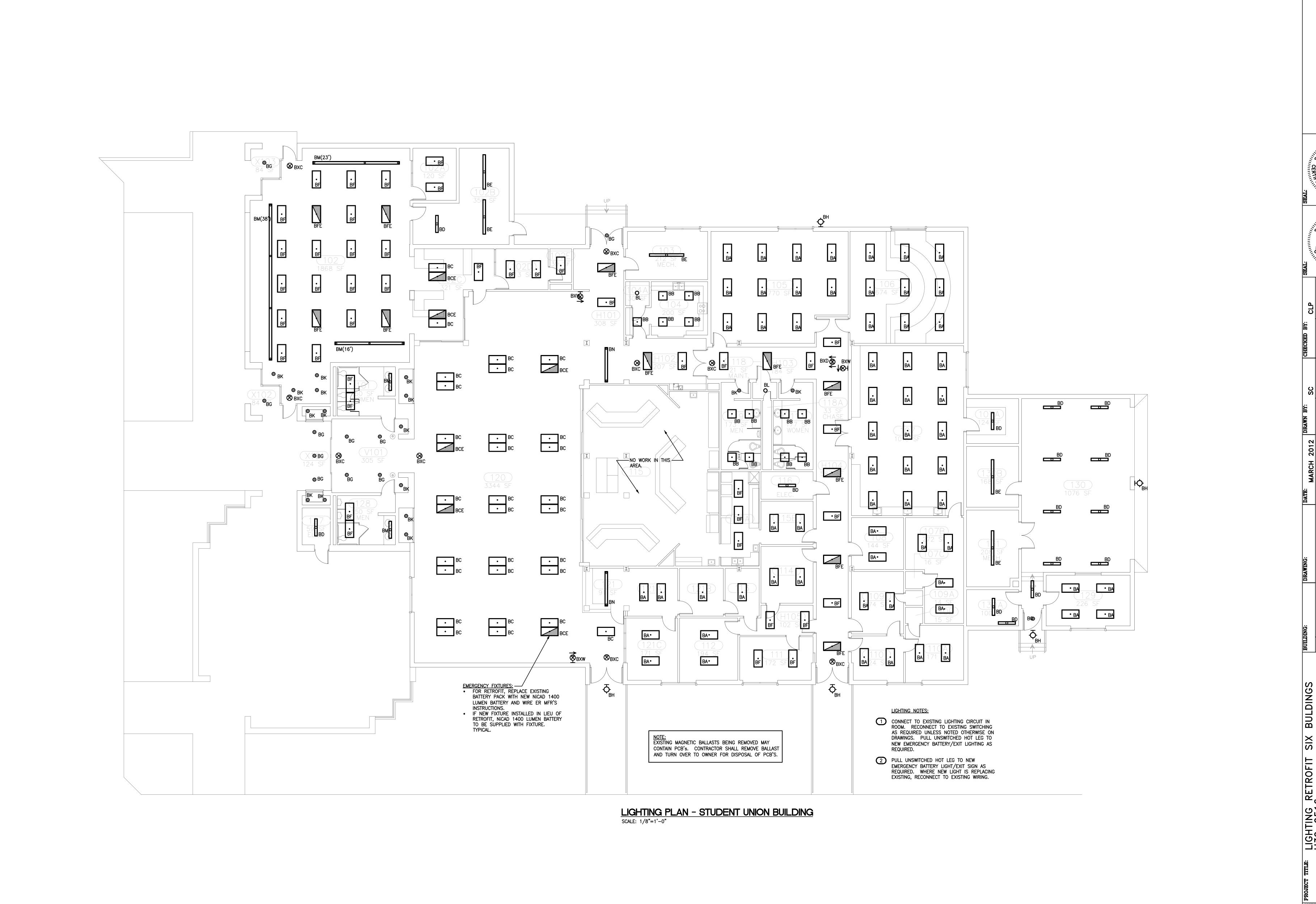
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BID SET C11033

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E102
sheet in set:



BUILDING: DRAWING: DATE: MARCH 2012 DRAWN BY: SC CHECKED BY: CLP CLP CREV.

REV. DESCRIPTION DATE: DRAWN BY CHECKED BY: CLP CHECKED BY: CLP CLP CREV.

DESCRIPTION DATE: DRAWN BY CHECKED BY: CHECKED BY: CLP CHECKED BY: CLP CHECKED BY: CHECKED BY:

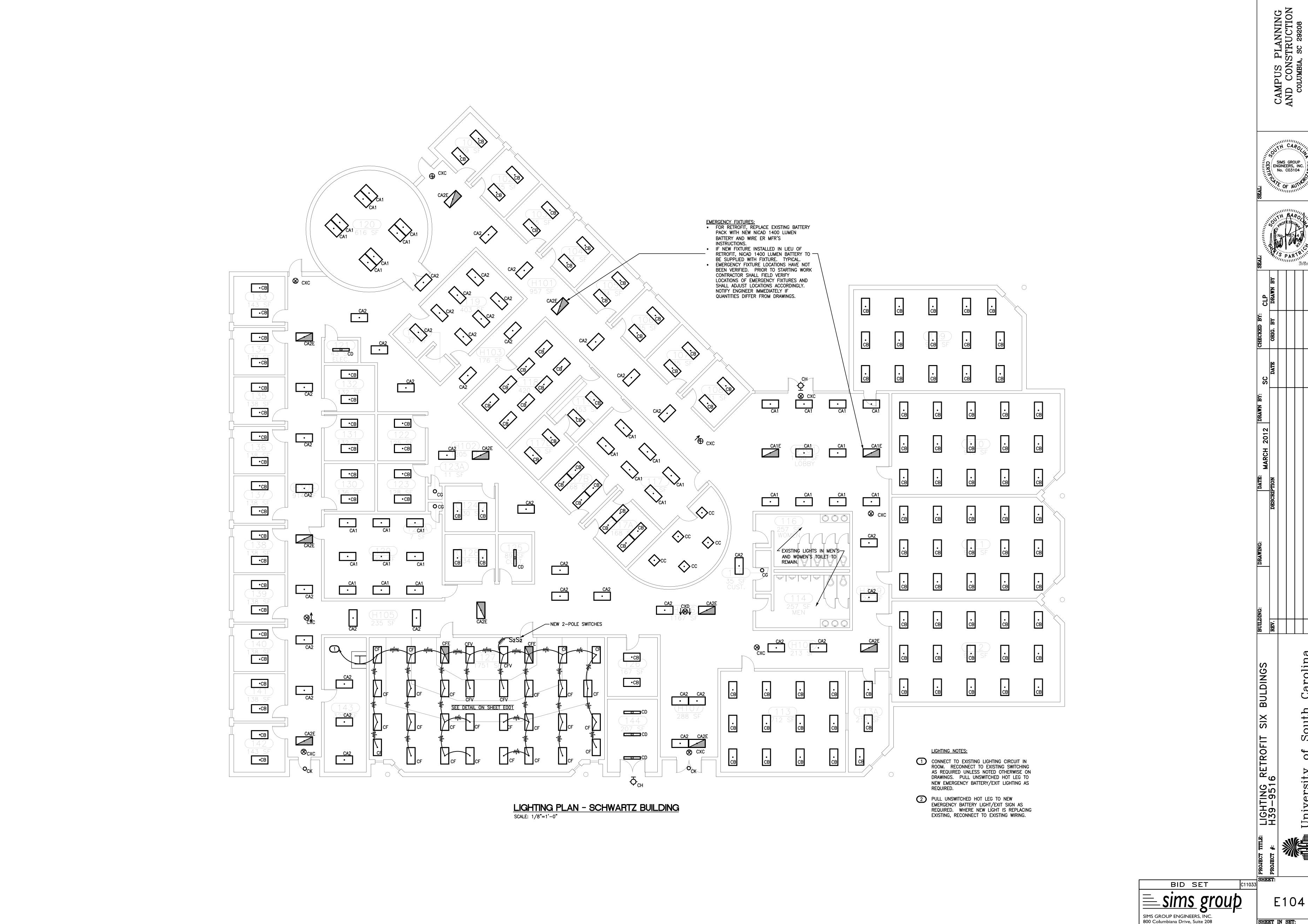
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E103
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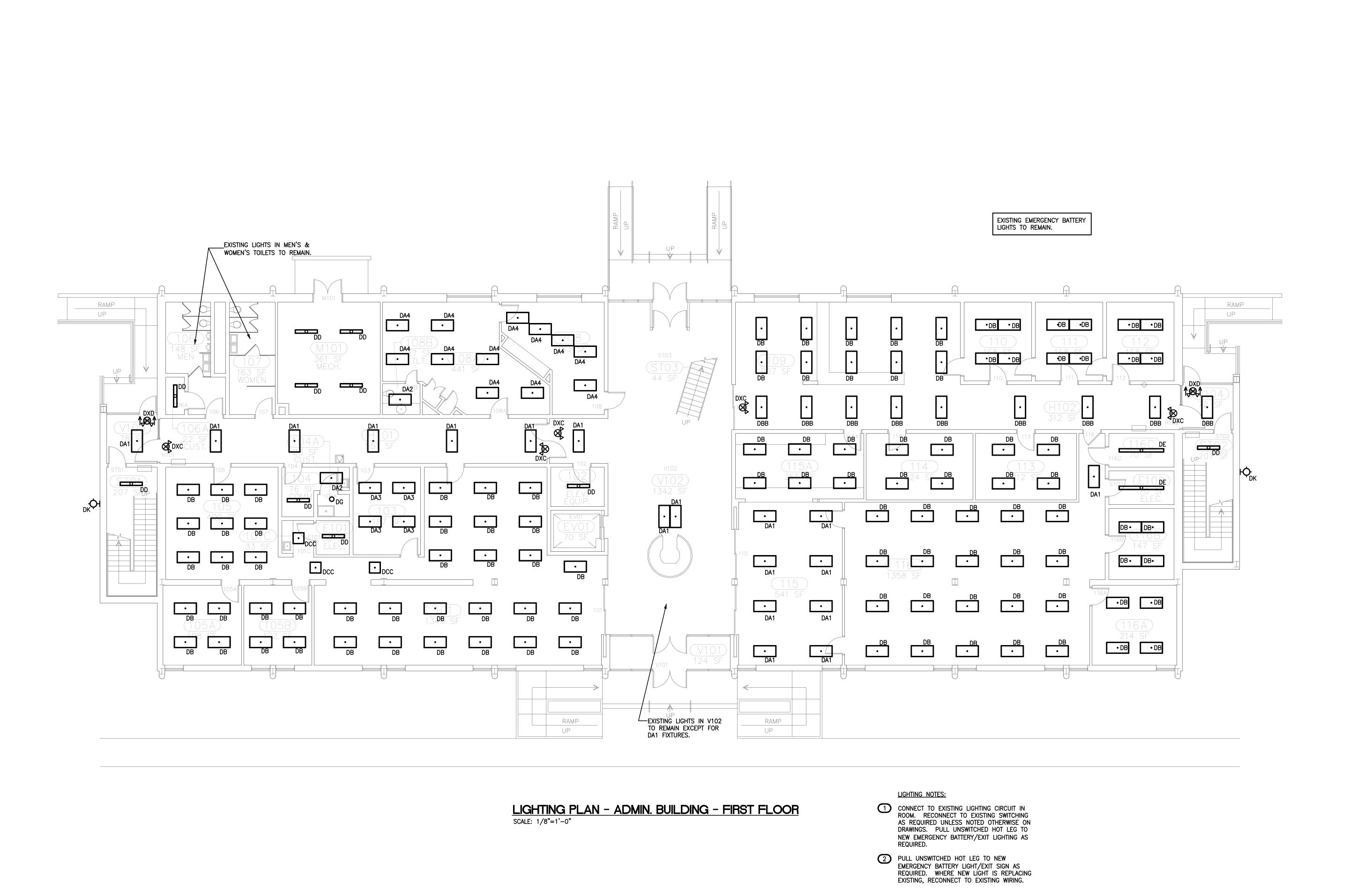


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DBB DF DBB DBB 276 ST • DBB DBB DBB • DB DB DB 2DBB\_ DD •DB STO2 DEB \*DB DBB DA1 •DB •DB • DB DF DA1 EXISTING LIGHTS IN V201 TO REMAIN. •DB •DB •DB •DB DA1 •DB •DB •DB •DB •DB •DB

EXISTING EMERGENCY BATTERY LIGHTS TO REMAIN.

**LIGHTING NOTES:** 

DA3

• DA3

DA3

DA3

DA3

DCC 20t

DF DF

•DB 78•DB •DB

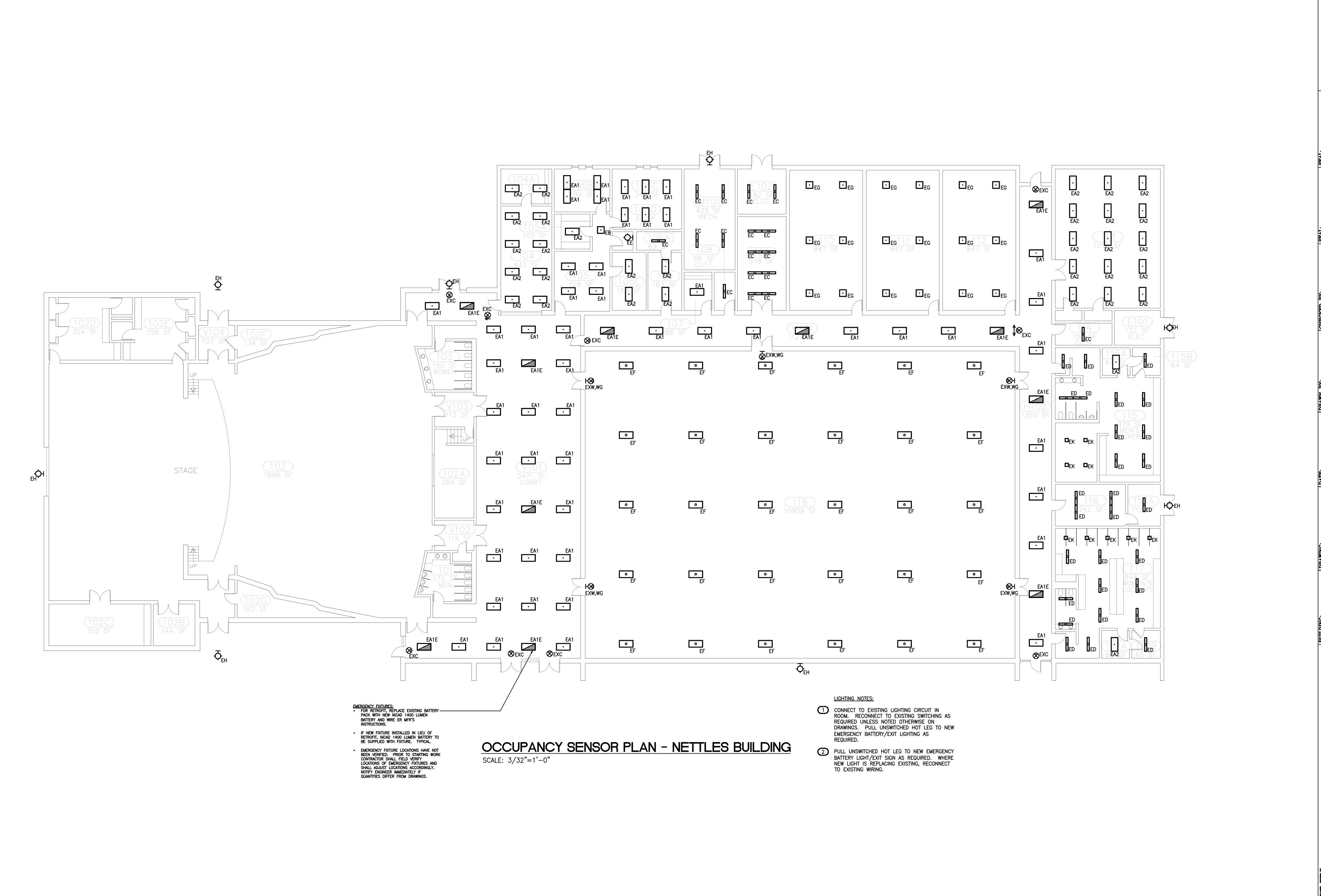
•DB

CONNECT TO EXISTING LIGHTING CIRCUIT IN ROOM. RECONNECT TO EXISTING SWITCHING AS REQUIRED UNLESS NOTED OTHERWISE ON DRAWINGS. PULL UNSWITCHED HOT LEG TO NEW LEMERGENCY BATTERY/EXIT LIGHTING AS REQUIRED.

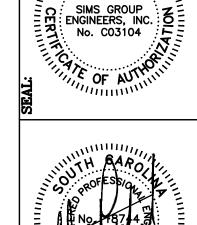
PULL UNSWITCHED HOT LEG TO NEW EMERGENCY BATTERY LIGHT/EXIT SIGN AS REQUIRED. WHERE NEW LIGHT IS REPLACING EXISTING, RECONNECT TO EXISTING WIRING.

<u>LIGHTING PLAN - ADMIN. BUILDING - SECOND FLOOR</u>

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



CAMPUS PLANNING AND CONSTRUCTIO COLUMBIA, SC 29208



IG: DATE: MARCH 2012 DRAWN BY: SC CHECKED BY: CLP

DESCRIPTION DATE ORIG. BY DRAWN BY

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LIGHTING RETROFIT SIX BULDINGS 139-9516

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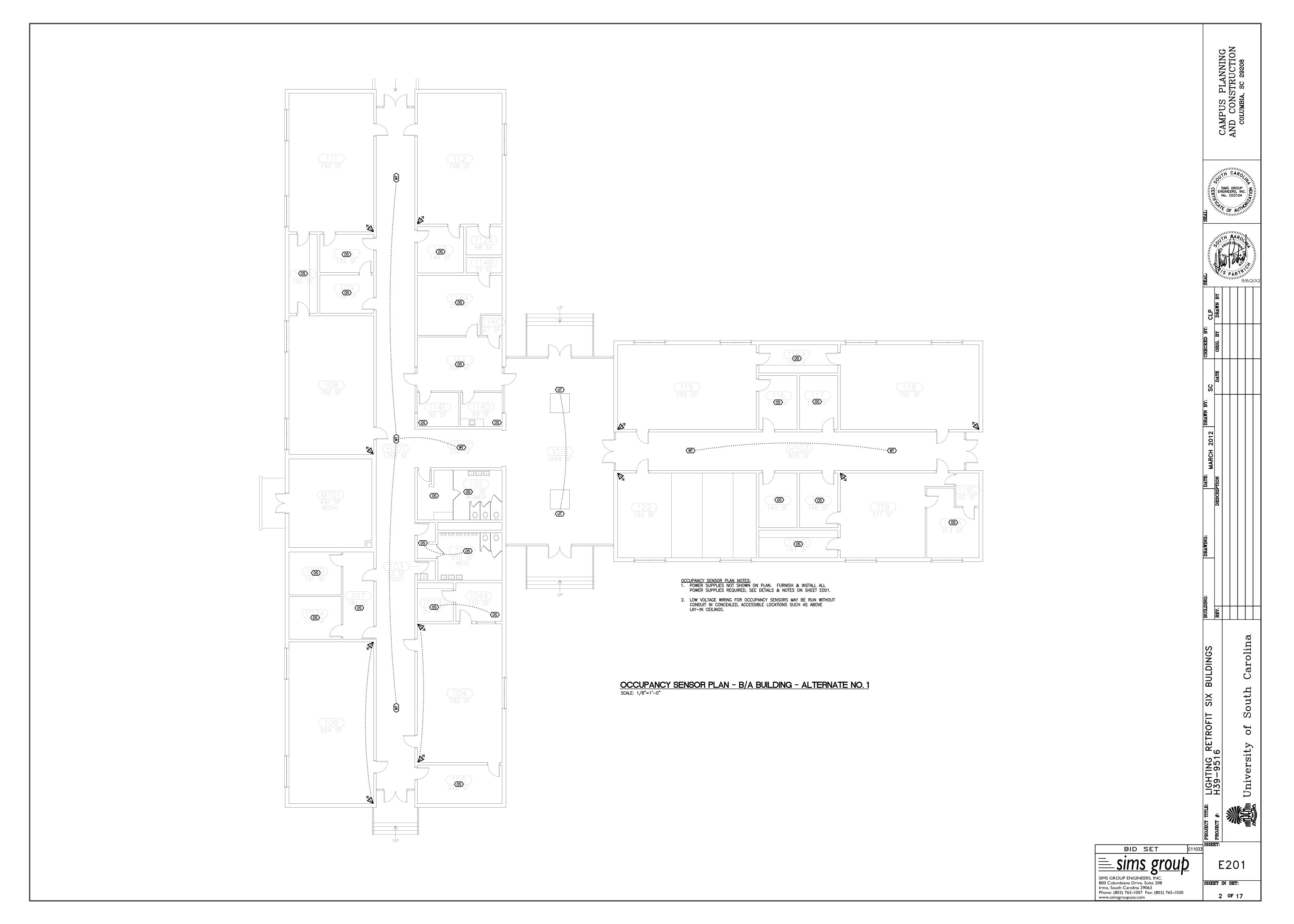
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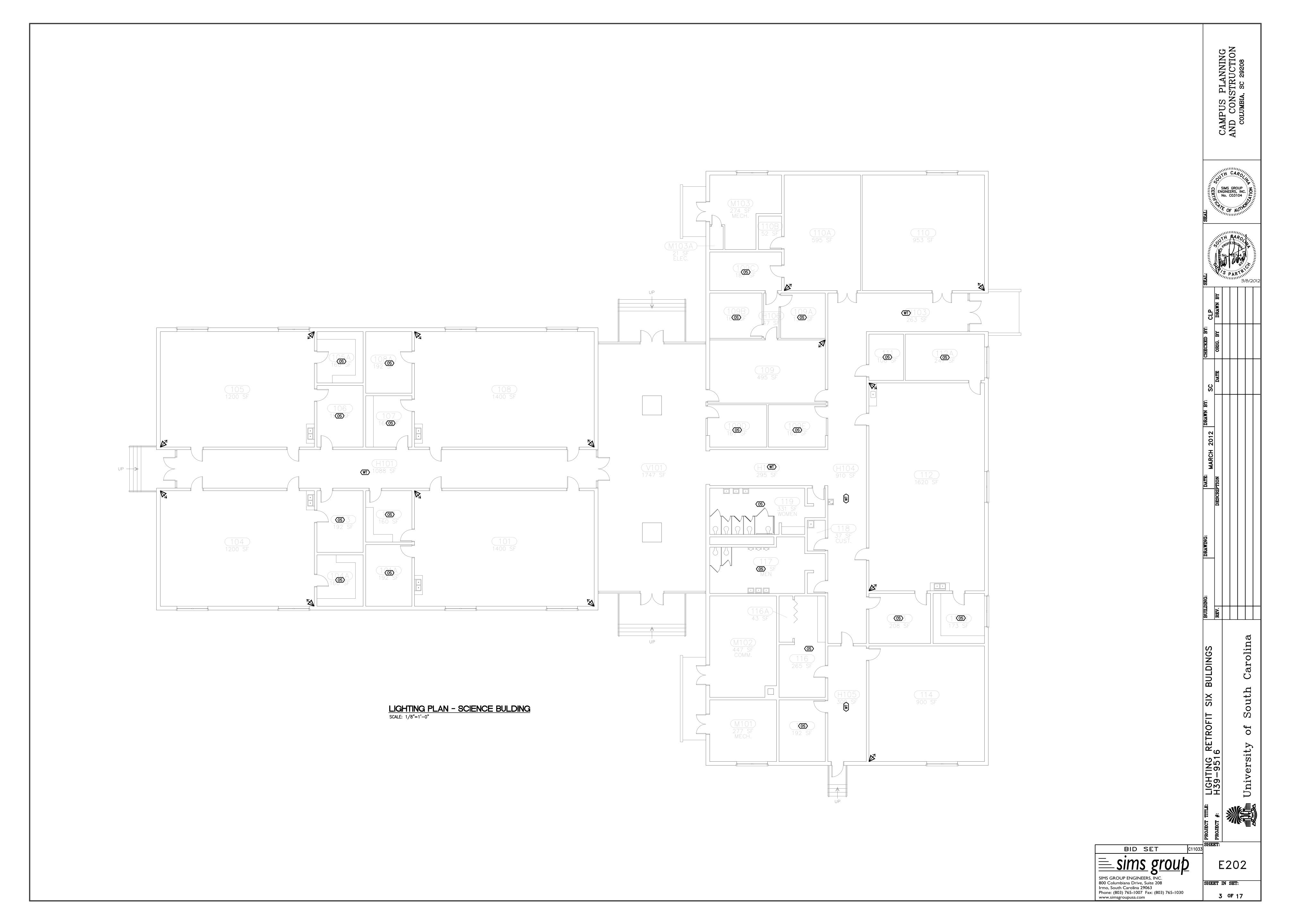
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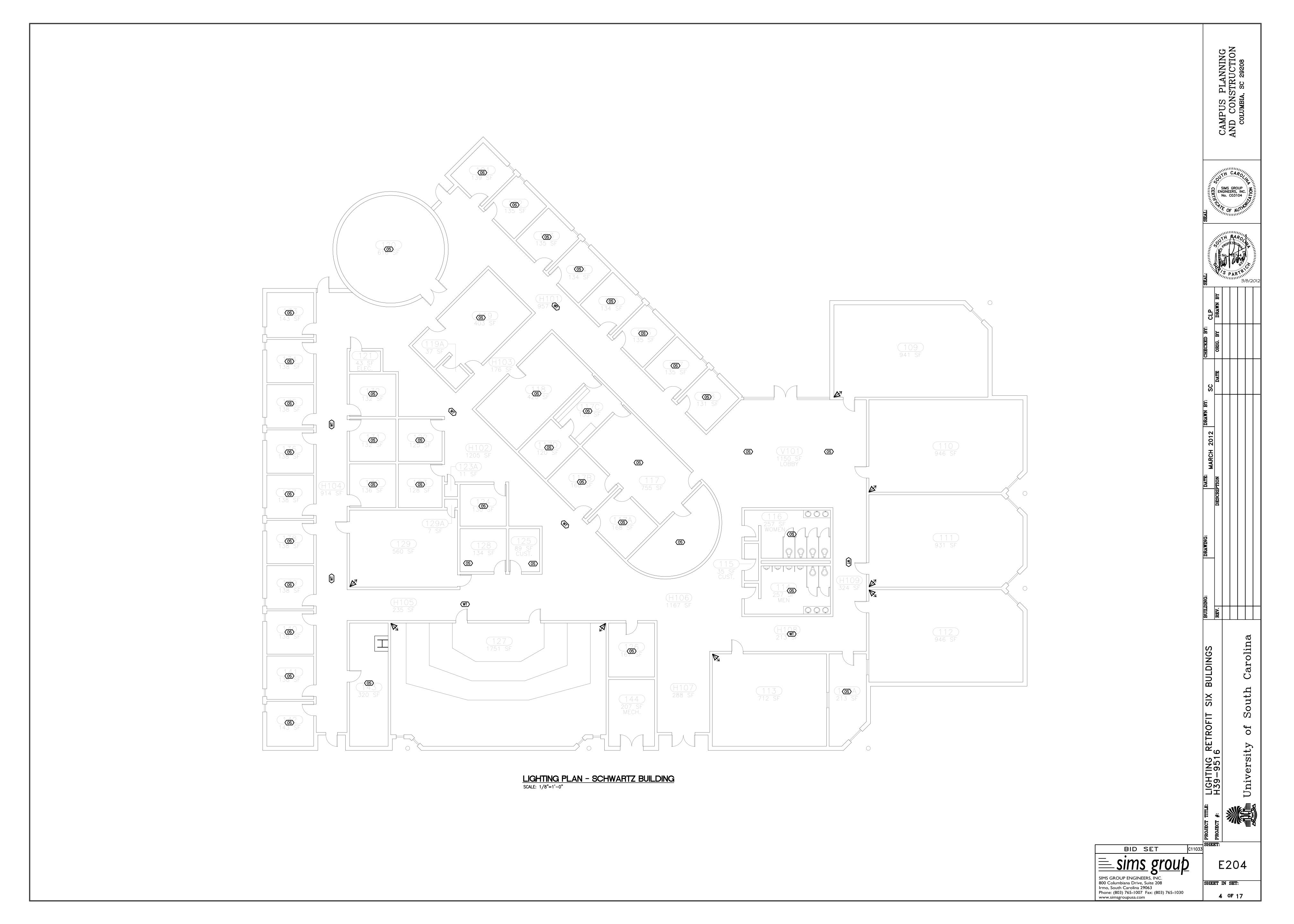
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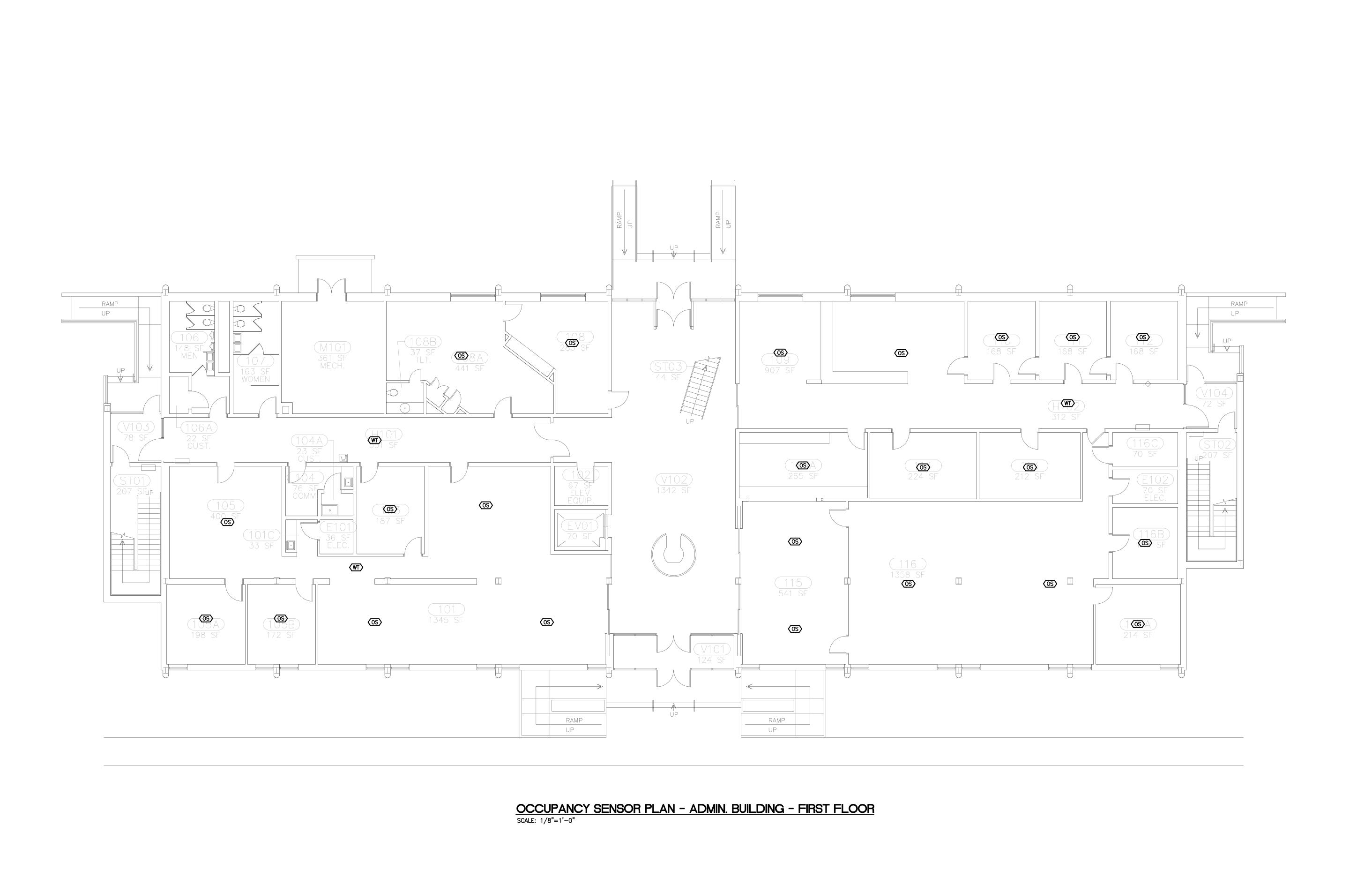
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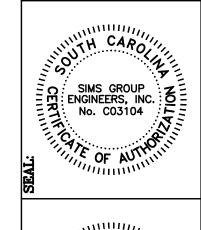


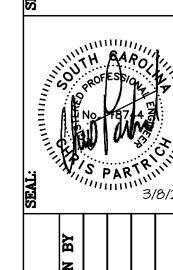












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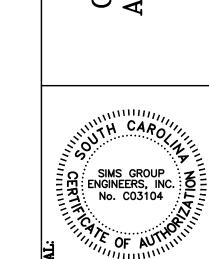
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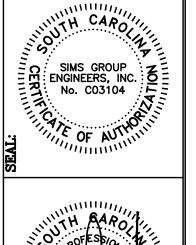
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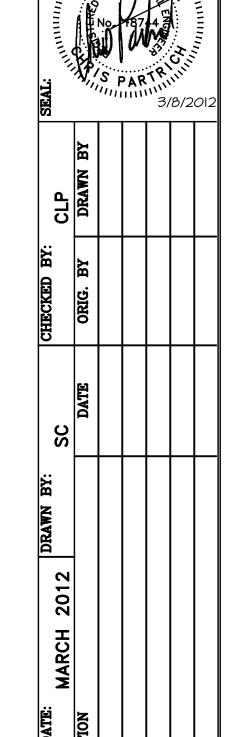
E205 SHEET IN SET: 4 OF 17



OCCUPANCY SENSOR PLAN - ADMIN. BUILDING - SECOND FLOOR SCALE: 1/8"=1'-0"



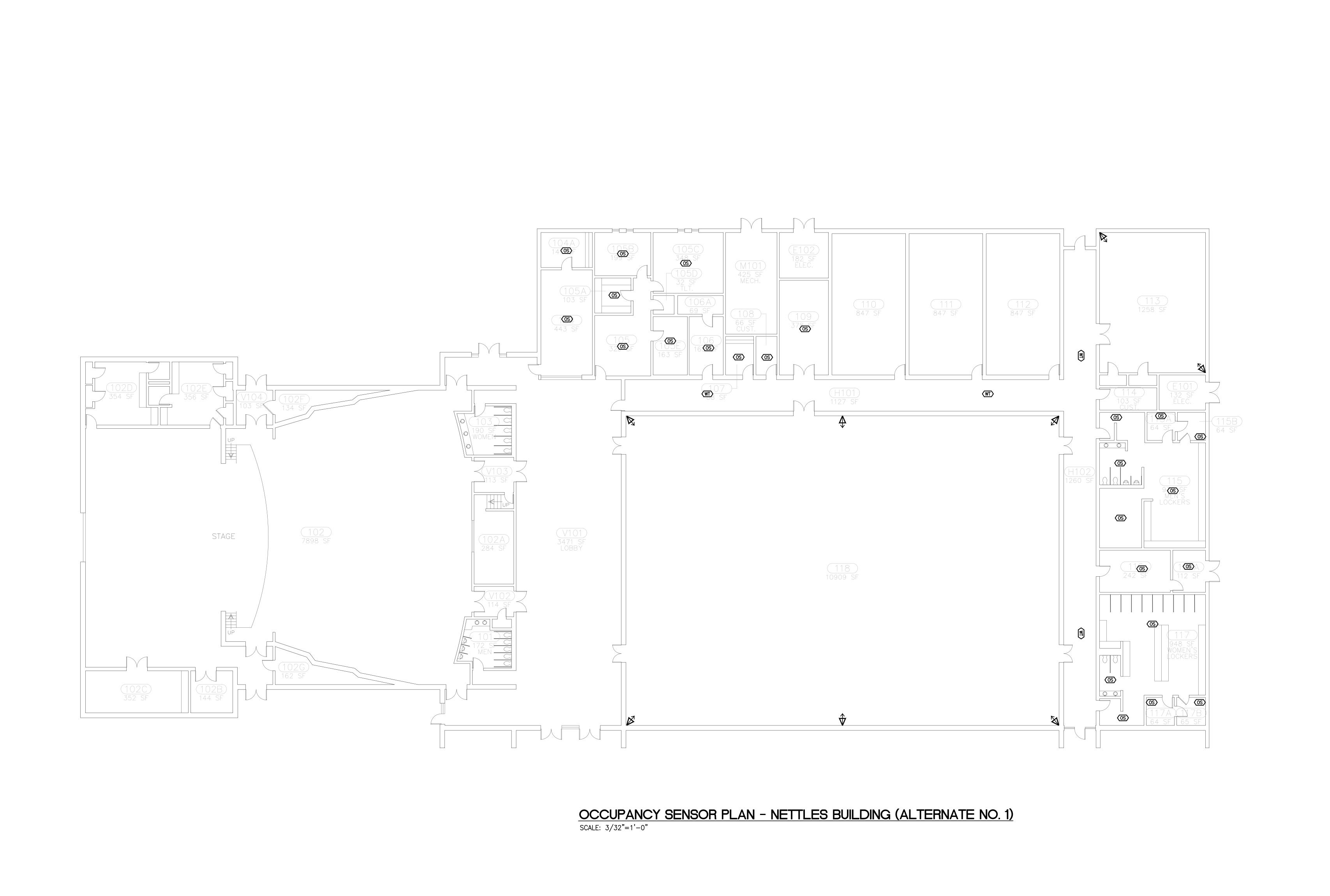




BULDINGS

BID SET E206

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