

COMMUNICATIONS PATHWAYS  
GENERAL NOTES:

- CONDUITS SHALL (a) CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 30M (98 FT.), AND (b) CONTAIN NO MORE THAN (2) 90° BENDS OR (1) REVERSE BEND WITHOUT INSTALLING A PULL BOX. SPLIT CONDUITS IN PLACE OF PULL BOXES ARE UNACCEPTABLE.
- CONDUITS SHALL CONTAIN PLASTIC OR NYLON PULL TAPE RATED AT 200 LBS. WITH A MINIMUM OF 5 FEET OF EXTRA PULL TAPE COILED AT EACH END.
- CONDUIT BEND RADIUS SHALL BE (a) A MINIMUM OF 6 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS 2-INCHES IN DIAMETER OR LESS, AND (b) 10 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS MORE THAN 2-INCHES IN DIAMETER.
- TERMINATE CONDUIT STUBS AND SLEEVES THAT PROTRUDE THROUGH STRUCTURAL FLOORS 2-INCHES TO 3-INCHES ABOVE THE FLOOR SURFACE.
- INSTALL BUSHINGS OR BELL ENDS AS REQUIRED ON ALL CONDUITS.
- FLEX CONDUIT IS UNACCEPTABLE FOR USE AS A COMMUNICATIONS CONDUIT EXCEPT AT SEISMIC JOINTS AND/OR IF APPROVED IN WRITING BY THE ENGINEER.
- ALL UNDER SLAB OR IN-SLAB CONDUITS SHALL BE INSTALLED IN A MANNER THAT PREVENTS WATER INFILTRATION OF THE CONDUIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROUND WATER, RAIN WATER OR CONSTRUCTION WATER IS PREVENTED FROM ENTERING AND/OR REMOVED FROM THE CONDUITS PRIOR TO PLACEMENT OF COMMUNICATIONS CABLES. SEE ELECTRICAL SPECIFICATIONS, DETAILS AND PLANS FOR ADDITIONAL CONDUIT SEALING REQUIREMENTS.

ALL PULL BOXES SHALL BE SIZED AND INSTALLED PER ANSI-TIA-569-C. PULL BOXES FOR IN/UNDER SLAB CONDUIT RUNS ARE NOT PERMITTED UNLESS OTHERWISE NOTED. PULL BOXES FOR OVERHEAD CONDUIT RUNS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS WITHIN THE ACCESSIBLE CEILING SPACE AND SUPPORTED INDEPENDENTLY FROM THE STRUCTURE AND CONDUIT SUPPORTS. PULL BOXES FOR ROOF MOUNTED OR EXTERIOR ABOVE GRADE APPLICATIONS SHALL BE NEMA 3R RATED. PULL BOXES SHALL BE SIZED ACCORDING TO THE FOLLOWING:

CONDUIT SIZE	WIDTH	LENGTH	DEPTH	WIDTH INCREASE PER ADDITIONAL CONDUIT
1"	3"	16"	3"	2"
2"	8"	36"	4"	5"
3"	12"	48"	5"	6"
4"	15"	60"	8"	8"

FOR OTHER CONDUIT SIZES REFER TO ANSI/TIA-569-C TABLE 12. - LATEST PUBLISHED EDITION.

- CONDUIT(S) SHALL EXIT A PULL BOX ON THE WALL OPPOSITE THE WALL ENTERED.
- PROVIDE LABELING OF EACH CONDUIT PER GENERAL ELECTRICAL SPECIFICATIONS.
- PROVIDE INTERNAL/EXTERNAL GAS AND WATER TIGHT MECHANICAL SEALING/PLUGGING OF EACH BUILDING ENTRY CONDUIT AS SPECIFIED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS.
- PROVIDE ELECTRO-STATIC DISCHARGE (ESD) FLOOR GROUNDING CONNECTION VIA ELECTRICAL RECEPTABLES AND/OR DEDICATED JUNCTION BOX LOCATIONS AS REQUIRED. COORDINATE FOIL CONNECTION LOCATIONS WITH ESD FLOORING CONTRACTOR PRIOR TO ROUGH-IN. SEE ESD FLOOR GROUNDING DETAIL FOR ADDITIONAL REQUIREMENTS.
- (2)4" DIA. CONDUIT SLEEVES EXTENDING 6" ABOVE AND BELOW CEILING. VERIFY CONDUIT SIZE AND QUANTITY, AND EXACT LOCATION PRIOR TO ROUGH-IN.
- DATA CABINET/RACK, LADDER TRAY AND RACK-MOUNTED UPS ARE OWNER FURNISHED-CONTRACTOR INSTALLED.

PLAN NOTES:

- EXISTING OVERHEAD FEEDERS RUNNING THRU CEILING SPACE TO REMAIN. LEAVE IN PLACE DURING CONSTRUCTION. SEE SINGLE LINE DIAGRAM.
- ALL RECEPTABLES IN CLASSROOMS, PLAYROOM AND ASSEMBLY ARE TO BE "TAMPER PROOF" TYPE RECEPTABLES.
- PROVIDE DUPLEX RECEPTACLE WITH (2) USB PORTS MOUNTED ABOVE COUNTER. SEE SYMBOL LIST SHEET E0.1.
- PROVIDE RECEPTACLE AND T.V./HDMI JACK OUTLET FOR WALL MOUNTED LED T.V. WITH 1" CONDUIT ONLY INTO ACCESSIBLE CEILING SPACE. VERIFY MOUNTING HEIGHT AND ALL REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.
- CONNECT TO AUTOMATIC SLIDING DOOR.
- EXISTING LANDSCAPE IRRIGATION CONTROLLER TO REMAIN. RECONNECT TO NEW PANEL AS SHOWN.
- EXTEND (1)4" CONDUIT ONLY WITH PULL STRING TO EXISTING TELEPHONE COMPANY PULLBOX ADJACENT TO EXISTING MAIN SWITCHGEAR.
- 3/4"C-3#8, 1#8 GROUND.
- 1/2"C-4#10, 1#10 GROUND.
- 3/4"C-2#10, 1#10 GROUND.
- PROVIDE CONNECTION TO CEILING MOUNTED PROJECTOR. VERIFY EXACT REQUIREMENTS AND LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- NOT USED.
- CONNECT TO WATER HEATER ELECTRONIC IGNITION.
- CONNECT TO CIRC PUMP.
- 3/4"C-3#10, 1#10 GROUND.
- PROVIDE A NEMA L5-30R RECEPTACLE FOR UPS.
- PROVIDE (2)4" CONDUIT ONLY SLEEVES TO 2ND FLOOR SERVER ROOM.
- VERIFY EXACT LOCATION AND MOUNTING HEIGHT FOR ALL RECEPTABLES, OUTLETS AND EQUIPMENT IN THIS ROOM WITH OWNER PRIOR TO ROUGH-IN.
- NOT USED.
- CONNECT TO FIRE RISER.
- PROVIDE (1)3/4" CONDUIT ONLY DATA DROP FOR RASPBERRY PI
- PROVIDE RECEPTACLE MOUNTED ABOVE CEILING FOR MATV DISTRIBUTION AMP.
- EXTEND (2)2" CONDUIT ONLY FROM WORSHIP CENTER ABOVE CEILING TO SERVER ROOM FOR FIBER OPTIC CABLES. VERIFY BEST ROUTING PATH IN FIELD.
- PROVIDE A 2" CONDUIT ONLY FROM AV BOOTH IN CEILING TO (3) SPEAKER LOCATIONS IN ASSEMBLY CEILING AREA.
- PROVIDE (2)2" CONDUIT ONLY TO SERVER ROOM FOR SOURCE SIGNALS.
- PROVIDE (1)4" CONDUIT ONLY AND (1)2" CONDUIT ONLY FOR LOW VOLTAGE SIGNAL FEED TO PLATFORM FOR FLOOR BOXES MOUNTED IN PLATFORM.
- PROVIDE FLUSH MOUNTED FLOOR BOX WITH PORTS FOR CATS, SDI AND DMX CABLES. VERIFY FLOOR BOX REQUIREMENTS AND LOCATIONS WITH OWNER PRIOR TO ROUGH-IN.
- MOUNT TRANSFORMER "1TB" ABOVE TRANSFORMER "1TA". SEE DETAIL #6 SHEET E6.1.
- MOUNT SECONDARY FUSED DISCONNECT SWITCH ADJACENT TO TRANSFORMER. MAINTAIN ALL CODE REQUIRED CLEARANCES. SEE DETAIL #6 SHEET E6.1.
- PROVIDE 1-1/2" CONDUIT ONLY FROM LED SCENE TO AV BOOTH FOR MATV CABLE. VERIFY TERMINATION POINT ON BOTH ENDS WITH OWNER PRIOR TO ROUGH-IN.
- NOT USED.
- E.C. TO INSTALL ANSI-J-STD-607A COMPLIANT U.L. LISTED TELECOMMUNICATIONS GROUND BUSBAR (TGB) (CHATSWORTH #40153-020 OR EQUAL BY HARGER) & TELECOMMUNICATIONS BONDING BACKBONE (TBB) PER ANSI-J-STD-607-A. PROVIDE 1/8" BRASS ENGRAVED NAMEPLATE WITH ABBREVIATION "T.G.B." - "ID. 7.2" WHERE QUESTION MARKS INDICATE FLOOR AND ID IDENTIFIER RESPECTIVELY. ATTACH NAMEPLATE TAG TO EACH BUS BAR. PROVIDE TELECOMMUNICATIONS BONDING BACKBONE (TBB) CONSISTING OF (1) 1" C.W. #3/0 WITH GREEN INSULATION CONNECTING EACH TGB(S). ROUTE TBB TO BUILDING MAIN ELECTRICAL SERVICE GROUND. PROVIDE 1/2"C. 1#6 GROUND CONDUCTOR WITH GREEN INSULATION CLOTHESLINE EFFECTIVELY GROUNDING TO NEAREST EFFECTIVELY GROUNDING BUILDING STEEL TO EACH TGB/TGB(S). U.O.N. CONNECTIONS SHALL BE MADE WITH 2-HOLE COMPRESSION CONNECTORS. LABEL EACH END OF TBB WITH A GROUND WARNING TAG (PANDUIT #178-010 OR EQUAL). IF THE LENGTH A TBB IS LESS THAN 100 FT PROVIDE A #1/0 WITH GREEN INSULATION IN LIEU OF A #3/0. BOND EACH END OF METAL CONDUIT TO TBB W/#6 WITH GREEN INSULATION. ADDITIONALLY, EC BOND ALL TRAY, RACKS/CABINETS, PDUS, UPS, HVAC SYSTEMS ETC TO NEAREST TGB WITH #6 GROUND CONDUCTOR WITH GREEN INSULATION.

POWER PLAN GENERAL NOTES:

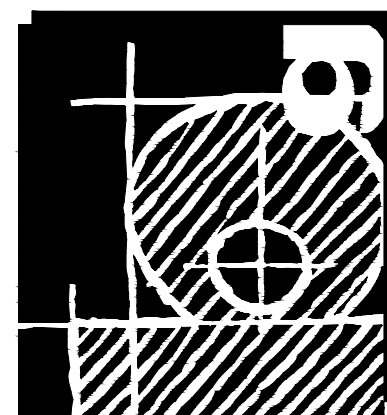
- ALL RECEPTABLES ON COMMON WALLS SHALL BE SEPARATE BOXES AND OFFSET 24-INCHES MINIMUM.
- ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
- ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.  
-ALL BRANCH CIRCUITS SHALL BE IN EMT.  
-ALL BRANCH CIRCUITS SHALL BE ROUTED NEATLY AND IN PARALLEL TO STRUCTURES OR DUCT WORK.  
VISUALLY OBJECTIONABLE BRANCH CIRCUITS SHALL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
- EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, ARTICLE 300.22(C).
- PROVIDE G.F.C.I. TYPE RECEPTABLE(S) OR RECEPTABLE(S) PROTECTED BY A GFI CIRCUIT BREAKER(S) WHEN LOCATED WITHIN 6- FEET OF ANY SINK OR THERAPEUTIC TUB, LAUNDRY AREA, SERVING ANY DRINKING FOUNTAIN OR VENDING MACHINE, WITHIN ANY KITCHEN SPACE AND/OR LOCATED OUTDOORS. WHERE RECEPTABLES ARE NOT READILY ACCESSIBLE, PROVIDE GFI CIRCUIT BREAKER(S) TO PROTECT THE RESPECTIVE BRANCH CIRCUIT AND PROVIDE ADDITIONAL NEUTRAL CONDUCTORS IN THE BRANCH CIRCUITING AS REQUIRED TO ENSURE PROPER GFI FUNCTION.
- PROVIDE OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROLLED RECEPTACLE RELAY(S) AS REQUIRED TO SWITCH CONTROLLED RECEPTABLES. CONNECT BRANCH CIRCUITRY AND CONTROL WIRING AS REQUIRED TO ALLOW OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM RELAY TO SWITCH STANDING AND/OR SYSTEMS FURNITURE CONTROLLED RECEPTABLES AS INDICATED ON PLANS. PROVIDE ADDITIONAL CONDUIT, WIRING AND PATHWAYS NECESSARY TO CONNECT BRANCH CIRCUITRY AND CONTROL WIRING TO REMOTE RELAYS TO INCLUDE RELAY(S) LOCATED ON ALTERNATE FLOORS, IN ELECTRICAL ROOMS, ETC.
- PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
- UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.

REVISIONS

DATE/DELTA	REMARKS
10/29/19	PLAN CHECK
11/29/21	PLAN REVISION

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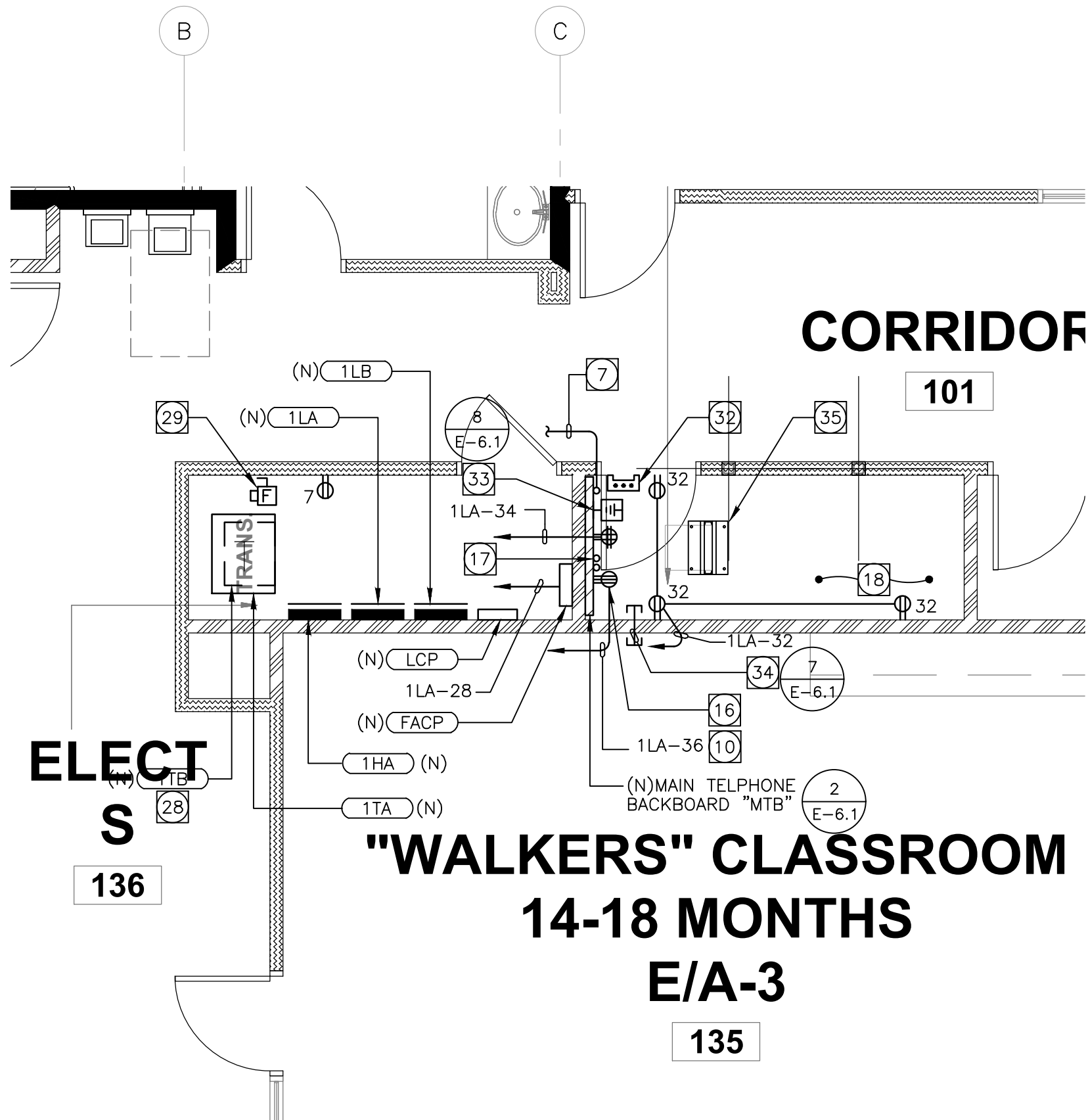
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SHEET TITLE:

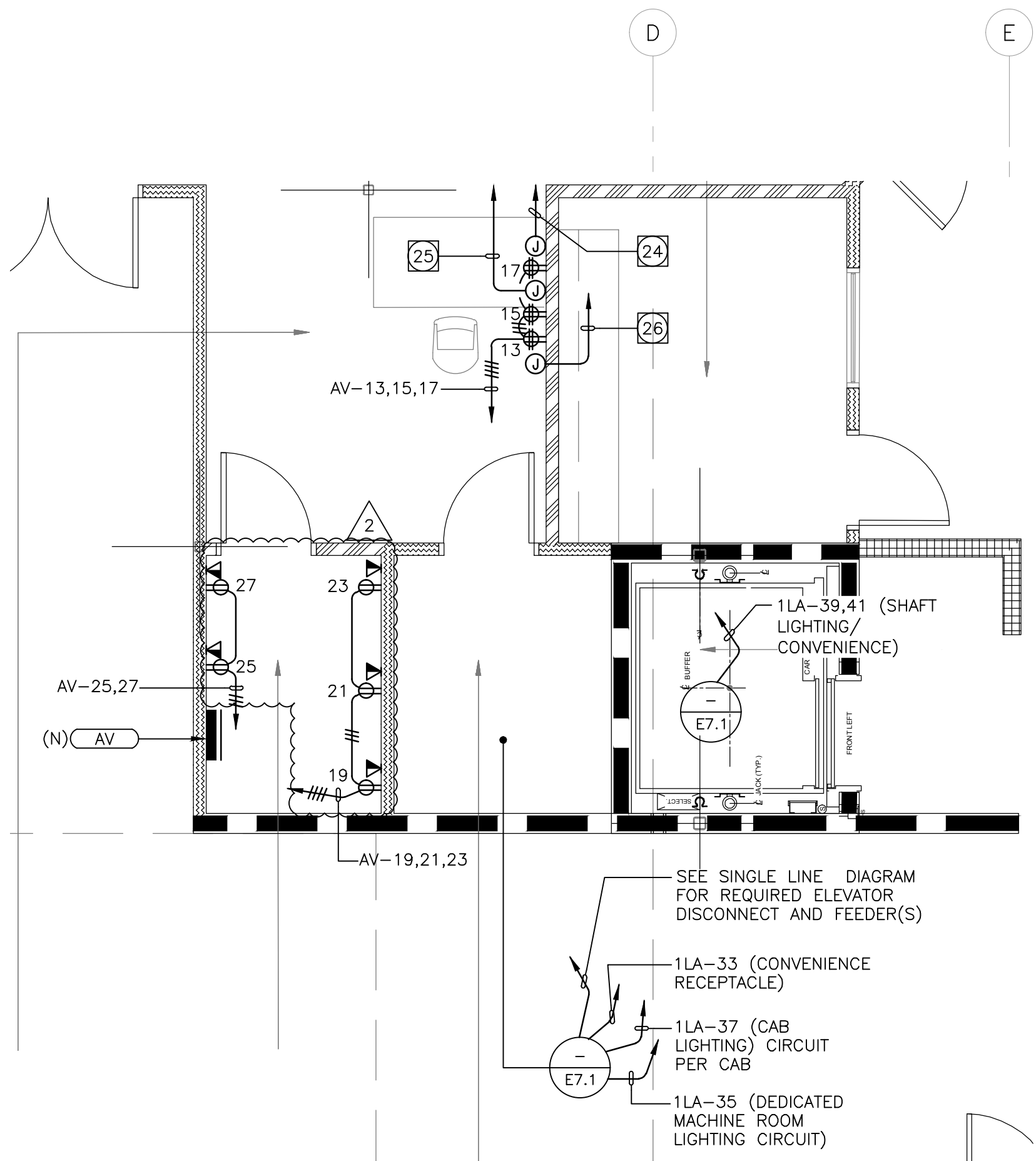
FIRST FLOOR  
POWER PLAN

SUB DATE	05/08/19
BID DATE	
DATE	03/19/19
DRAWN BY:	JT
JOB NO:	11761
CHECKED BY:	SH
SHEET NUMBER:	E-3.1



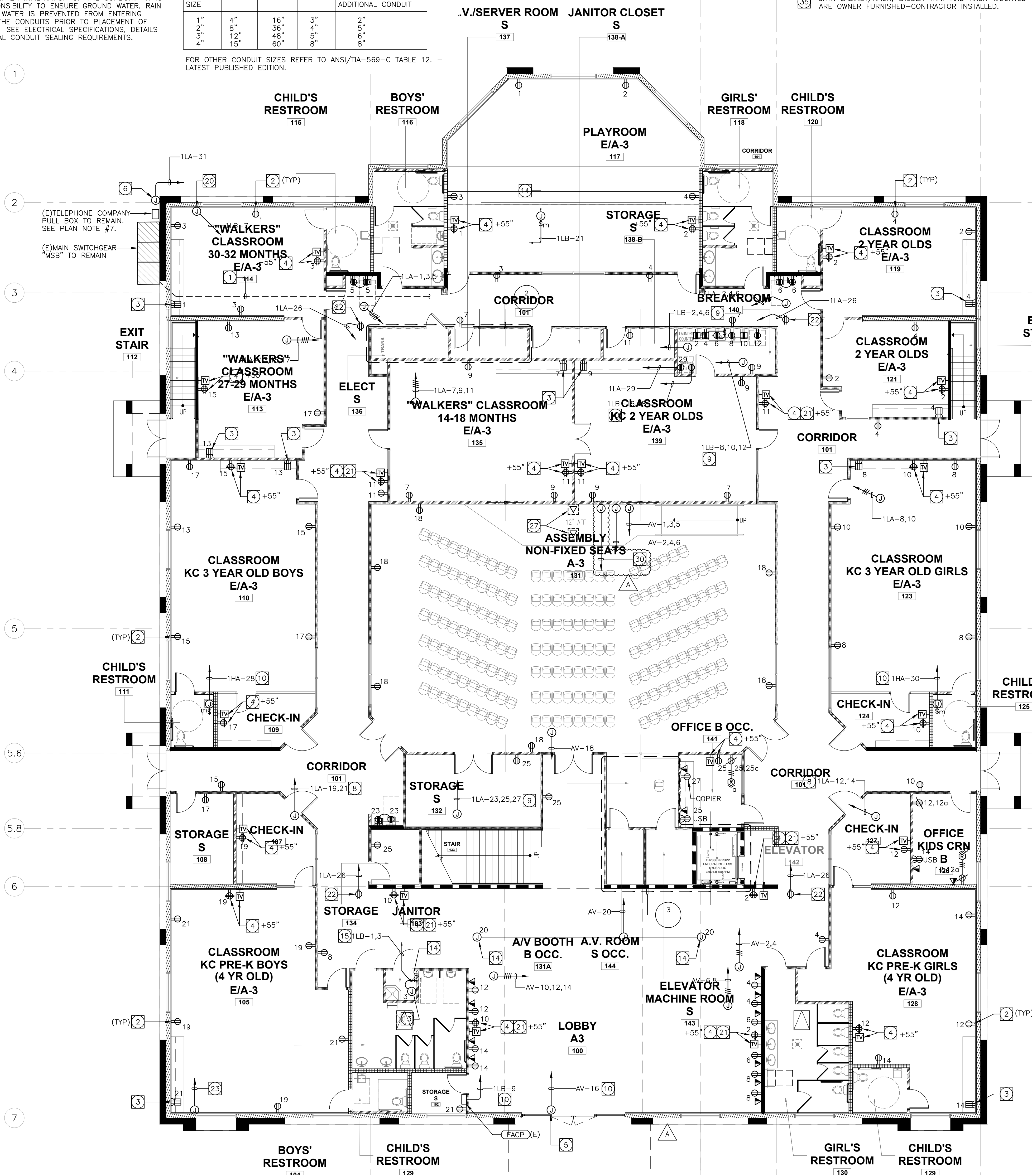
FIRST FLOOR ENLARGED ELECT. AND SERVER ROOM

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



ENLARGED ELEVATOR ROOM

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



FIRST FLOOR POWER PLAN

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

THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.

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