GENERAL NOTES:

- SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES INDICATED ON THIS DRAWING ARE TYPICAL. DRAWINGS MAY NOT INDICATE ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS. PROVIDE SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTURANCES, DEVICES, AND MATERIALS OBVIOUSLY
- NECESSARY FOR A SOUND, SECURE, AND COMPLETE INSTALLATION. ABIDE AND ENFORCE ALL SAFETY RULES AND REGULATIONS SET FORTH BY THE OWNER. ALL WORKERS AND SUPERVISORS MUST ATTAIN SAFETY TRAINING CLASSES (IF APPLICABLE). BE RESPONSIBLE TO FOLLOW ALL
- VERBAL INSTRUCTIONS GIVEN BY OWNERS REPRESENTATIVES. THE SUBMISSION OF A BID BY THE CONTRACTOR IS NOTIFICATION THAT THE CONTRACTOR HAS TOTALLY FAMILIARIZED HIMSELF WITH THE CONTRACT DOCUMENTS AND EXISTING SITE CONDITIONS AND HAS AGREED TO PROVIDE THE NECESSARY LABOR AND MATERIAL FOR THE COMPLETE INSTALLATION OF EACH SYSTEM IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE BEST PRACTICES OF THE INDUSTRY AND IN COMPLIANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
- THESE DRAWINGS ARE PRESENTED TO THE CONTRACTOR WITH THE UNDERSTANDING THAT THE CONTRACTOR IS AN EXPERT AND COMPETENT IN THE PREPARATION OF CONTRACT BID PRICES ON THE BASIS OF INFORMATION SUCH AS IS CONTAINED IN THESE DOCUMENTS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL 6. FOR FINISHED WORK, TESTED AND READY FOR OPERATION AND IN COMPLETE CONFORMANCE WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS, MINOR ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK AND IN THE PROPOSAL THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO DEPARTURES SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER AND OWNER.
- VISIT THE SITE AND ADJOINING AREAS AND EXAMINE THE EXISTING CONDITIONS TO BECOME FAMILIAR WITH THEM AND TO DETERMINE THE DIFFICULTIES WHICH WILL AFFECT THE EXECUTION OF THE WORK OF THIS CONTRACT. THIS CONTRACTOR SHALL PERFORM THIS PRIOR TO THE SUBMISSION OF HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK.
- THE DRAWINGS INDICATE ARRANGEMENTS AND APPROXIMATE SIZES AND RELATIVE LOCATIONS OF PRINCIPAL APPARATUS, EQUIPMENT, DEVICES, AND SERVICES TO BE PROVIDED. DRAWINGS ARE DIAGRAMMATIC AND ARE A GRAPHIC REPRESENTATION OF CONTRACT REQUIREMENTS TO THE BEST AVAILABLE STANDARDS AT THE SCALE INDICATED
- LAYOUT OF EQUIPMENT INDICATED ON THE DRAWINGS SHALL BE CHECKED AND COMPARED AGAINST ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES AND EXACT LOCATIONS DETERMINED USING APPROVED SHOP DRAWINGS OF SUCH EQUIPMENT. WHERE PHYSICAL INTERFERENCES OCCUR, CONSULT WITH ENGINEER AND PREPARE DATED, DIMENSIONED DRAWINGS COORDINATED WITH ALL OTHER TRADES WORKING IN THIS AREA AND CORRECTING SUCH INTERFERENCE.
- SCHEDULE WORK IN ACCORDANCE WITH THE CONSTRUCTION SCHEDULE SO THAT ALL WORK CAN BE INSTALLED WITHOUT DELAYING THE PROJECT. ALL WORK RELATED TO SHUTDOWN OF EXISTING SERVICES SHALL BE PERFORMED AT THE HOURS DESIGNATED BY THE OWNER WITH ALL ASSOCIATED COSTS BORNE BY THE CONTRACTOR AT NO COST TO THE OWNER. PROVIDE ANY TEMPORARY FACILITIES REQUIRED TO PERMIT THE OWNER'S USE OF EXISTING FACILITIES AND SYSTEMS TO REMAIN UNDISTURBED. COORDINATE ALL WORK. INCLUDING ALL SHUTDOWNS THAT AFFECT SYSTEMS AND/OR PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION, WITH THE OWNER AND ALL OTHER CONTRACTORS.
- SECURE AND PAY ALL FEES, LICENSES, INSPECTIONS, AND PERMITS PERTAINING TO THE CONTRACT. SUBMIT TO OWNER DUPLICATE CERTIFICATES OF INSPECTION FROM APPROVED INSPECTION AGENCY.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN 13. INSTRUCTIONS.
- BE RESPONSIBLE FOR WORKMEN'S IDENTIFICATION AND BADGING. SAFETY AND FIRE PROTECTION, BARRICADES. WARNING SIGNS, TRASH REMOVAL, CUTTING AND PATCHING,
- BE RESPONSIBLE FOR ALL RIGGING, HANDLING, AND PROTECTION OF MATERIALS, ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL EQUIPMENT INSTALLED SHALL BEAR THE LABEL OF AN APPROVED AGENCY.
- PROVIDE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT, AND TRANSFER TO POINT OF INSTALLATION FOR ALL FURNISHED ITEMS.
- WHERE CONDUIT, CABLES, DUCTWORK, OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE PENETRATION SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE UL LISTED FIRE RATING OF THE PENETRATED WALL OR FLOOR.
- BE RESPONSIBLE FOR ALL SLAB OPENINGS, WALL OPENINGS, BEAM PENETRATIONS, AND CORING AS IT RELATES TO HIS WORK. SUBMIT SIZE AND LOCATION FOR REVIEW AND APPROVAL.
- ALL EXTERIOR WALL OPENINGS SHALL BE SLEEVED, PROPERLY CAULKED, AND SEALED WITH A HIGH QUALITY SEALANT TO PREVENT INFILTRATION OF MOISTURE AND OUTSIDE AIR. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS.
- CONTRACTOR TO NOTIFY OWNER PRIOR TO STARTING WORK TO VERIFY COMPLIANCE WITH BOND AND WARRANTY OF EXISTING ROOF
- RESTORE EXISTING SYSTEMS, DEVICES, FINISHED, ETC. DAMAGED OR ALTERED BY WORK TO ACCEPTABLE CONDITIONS AS DETERMINED BY THE OWNER, ARCHITECT, AND/OR ENGINEER. EXISTING SYSTEMS AND SERVICES THAT ARE TEMPORARILY DISCONNECTED BUT ARE TO REMAIN IN USE SHALL BE PERMANENTLY RECONNECTED AND RETURNED TO PROPER OPERATION.
- SUBMIT A SCHEDULE OF SUBMITTALS PRIOR TO SUBMITTING ANY SHOP DRAWINGS, ETC. FOR THIS PROJECT. 22. INCLUDING THE ANTICIPATED DATE OF EACH SUBMISSION. CONTRACTORS SHALL SUBMIT COMPLETE SHOP DRAWINGS AND CATALOG CUTS, WIRING DIAGRAMS AND ASSOCIATED DATA TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR STARTING ANY WORK. CONTRACTOR SHALL SUBMIT ALL PIPING AND DUCTWORK FIELD INSTALLATION DRAWINGS FOR EACH SYSTEM TO BE INSTALLED. ANY WORK INSTALLED OR EQUIPMENT PURCHASED PRIOR TO RECEIPT OF ENGINEER APPROVED SHOP DRAWINGS THAT REQUIRES CHANGES SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
- 23. SUBMIT CATALOG INFORMATION, FACTORY ASSEMBLY DRAWINGS AND FIELD INSTALLATION DRAWINGS AS REQUIRED FOR A COMPLETE EXPLANATION AND DESCRIPTION OF ALL ITEMS TO BE PROVIDED. REVIEW AND APPROVE ALL SHOP DRAWINGS. NO SUBMISSION WILL BE ACCEPTED WITHOUT THE SIGNED APPROVAL OF THE CONTRACTOR. CHECK AND VERIFY ALL FIELD MEASUREMENTS.
- 24 UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SUPPLY THE ENGINEER WITH ONE (1) COMPLETE SET OF AS-BUILT DRAWINGS IN ELECTRONIC AUTOCAD SOFTWARE FORMAT AT CONTRACTOR'S EXPENSE AND THREE (3) COMPLETE BOUND COPIES OF OPERATION AND MAINTENANCE MANUALS. THESE SHALL BE PROVIDED TO THE OWNER AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL INSTRUCT THE OWNER'S PERSONNEL WITH REGARD TO THE PROPER OPERATION OF ALL SYSTEMS TO THE SATISFACTION OF THE OWNER.
- NOTIFY ENGINEER OF COMPLETION OF ALL WORK, INDICATING THE CONTRACTOR IS READY FOR THE ENGINEER TO 30. PERFORM THE FINAL PUNCHLIST INSPECTION. UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED, ALL WORK FURNISHED UNDER THE CONTRACT SHALL BE GUARANTEED AGAINST ANY AND ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS FOR A PERIOD OF NOT
- LESS THAN ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION. ANY DEFECTS OF WORKMANSHIP DEVELOPING DURING THIS PERIOD SHALL BE REMEDIED AND ANY DEFECTIVE MATERIAL REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.
- PREPARE FULLY DIMENSIONED FIELD SHEET METAL AND PIPING INSTALLATION DRAWINGS (MIN. 1/4"=1'-0" SCALE). THESE DRAWINGS SHALL BE FORWARDED TO ALL CONTRACTORS. EACH CONTRACTOR SHALL SUBSEQUENTLY IN 33. SUCCESSION DELINEATE HIS RESPECTIVE WORK ON THESE COORDINATION DRAWINGS. WHEN ALL WORK HAS BEEN PROPERLY SHOWN ON THE COORDINATION DRAWINGS, AND ALL CONTRACTORS AGREE THAT THEIR RESPECTIVE WORK CAN BE INSTALLED AND WILL PROPERLY FIT TOGETHER, THEY SHALL SO ACKNOWLEDGE BY ENDORSING THE DRAWING(S). ANY WORK DONE PRIOR TO COMPLETION OF ABOVE COORDINATION PROCESS FOUND IN CONFLICT SHALL BE REMOVED AND REPLACED AT THE RESPECTIVE CONTRACTOR'S EXPENSE.
- INSTALLED SYSTEMS SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT SOUND OR VIBRATION THAT IS OBJECTABLE TO THE ENGINEER, ARCHITECT, OR THE OWNER. OBJECTABLE SOUND OR VIBRATION CONDITIONS DUE TO WORKMANSHIP SHALL BE CORRECTED IN APPROVED MANNER BY THE CONTRACTOR AT HIS EXPENSE.
- UPON COMPLETION OF ALL UNFINISHED OR FAULTY WORK NOTED IN ENGINEER FINAL PUNCH LIST, SUBMIT TO THE ENGINEER IN WRITING A LETTER OF COMPLETION CERTIFYING THAT ALL PUNCH LIST ITEMS HAVE BEEN COMPLETED AND ALL AS-BUILTS, MANUALS, ETC. HAVE BEEN SUBMITTED.
- BE RESPONSIBLE FOR ALL SLAB AND WALL OPENINGS, BEAM PENETRATIONS AND CORING DRILLING AS IT RELATES 30 TO HIS WORK. PLUMBING CONTRACTOR SHALL SUBMIT SIZE AND LOCATION OF ALL SLAB AND WALL OPENINGS AND BEAM PENETRATIONS. AND COR DRILLING TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
- EFFECTIVELY PROTECT ALL MATERIAL AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE DAMAGED ITEMS AT NO ADDITIONAL LOST TO OWNER. REFERENCED MANUFACTURES DENOTES A MINIMUM ACCEPTABLE LEVEL OF QUALITY AND IS NOT INTENDED TO 32.
- PREVENT SUBMISSION OF EQUIVALENT EQUIPMENT. ALL WORK BEING INSTALLED IN AIR PLENUM SPACES MUST BE INSTALLED WITH PLENUM RATED MATERIAL, ANY EXISTING NON-PLENUM RATED PLUMBING PIPE LOCATED WITHIN THESE PLENUM RATED AREAS SHALL BE WRAPPED WITH A PLENUM RATED PIPE WRAPPING MATERIAL

GENERAL ELECTRICAL NOTES:

- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK. IF THE CONTRACTOR OBSERVES ANY DISCREPANCIES TO THE DRAWINGS PRIOR TO THEIR BID THEY SHALL IDENTIFY SAME TO THE OWNER AND ENGINEER IN WRITTEN FORM WITH THEIR BID PROPOSAL UNLESS IDENTIFIED PRIOR TO SUBMITTING THEIR BID. ELECTRICAL EQUIPMENT AND DEVICES INCLUDING ELECTRICAL CHARACTERISTICS SHOWN ON THE ELECTRICAL PLANS SHALL BE CHECKED AND COMPARED AGAINST ALL DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES. BID SHALL INCLUDE ELECTRICAL ITEMS SHOWN BUT NOT PROVIDED BY OTHER TRADES. WHERE ELECTRICAL CHARACTERISTICS SHOWN BY OTHER TRADES DEVIATES FROM THOSE SHOWN ON THE ELECTRICAL PLANS, CONTRACTOR IS RESPONSIBLE FOR REQUESTING CLARIFICATION BY ENGINEER PRIOR TO SUBMITTING A BID. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NFPA 70 (NEC) AND OTHER ADOPTED CODES AND STANDARDS BY THE LOCAL JUSRISTICTION. GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 250. UNLESS OTHERWISE NOTED, ALL WORK SPECIFIED HEREIN OR NOTED ON DRAWINGS, SHALL BE BY THE CONTRACTOR. THE TERM "PROVIDE" WHENEVER ENCOUNTERED ON DRAWINGS OR IN THESE SPECIFICATIONS, SHALL MEAN "FURNISH AND INSTALL" ALTHOUGH WORK IS NOT SPECIFICALLY SHOWN OR SPECIFIED, PROVIDE SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTURANCES, DEVICES, AND MATERIALS OBVIOUSLY NECESSARY FOR A SOUND, SECURE, AND COMPLETE INSTALLATION. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL BENDS, OFFSETS, DROPS AND RISES OF RUNS. ALLOW IN PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATE WITH OTHER TRADES, AS REQUIRED. MAINTAIN HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. THE EXACT LOCATIONS OF DEVICES AND EQUIPMENT ARE SUBJECT TO THE APPROVAL OF THE OWNER. WHO RESERVES THE RIGHT TO MAKE ANY REASONABLE CHANGES AT NO EXTRA COST. UPON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE FREE FROM GROUNDS, SHORT CIRCUITS, OPEN CIRCUITS, OVERLOADS AND IMPROPER VOLTAGES. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10' APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. MC AND AC CABLES SHALL BE SECURED EVERY 6' AND WITHIN 12" FROM THE JUNCTION BOX. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS. PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING HOURS OF ALL TRADES. OWNER WILL PAY FOR COST OF ENERGY. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS. IN LOCATING BOXES AND OUTLETS TO AVOID INACCESSIBLITY, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER. PASS RACEWAYS OVER WATER, STEAM OR OTHER PIPING WHEN PULL BOXES ARE NOT REQUIRED. NO RACEWAY WITHIN 3" OF STEAM OR HOT WATER PIPES OR APPLIANCES (EXCEPT PIPE CROSSINGS WHERE RACEWAY IS AT LEAST 1" FROM PIPE COVERS AND PARALLEL RUNS WHERE RACEWAY IS AT LEAST 18"). CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREAD OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAY COUPLING. HORIZONTAL OR CROSS RUNS IN PARTITIONS AND WALLS ARE NOT PERMITTED. DO NOT RUN CONDUIT IN PRECAST ROOF SLABS, IN 2" SLABS OR IN TERRAZZO FLOOR FINISH. ALL INTERIOR WIRING SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING OR METAL CLAD CABLE AND CONCEALED IN WALLS OR IN HUNG CEILING SPACE. WHERE WIRING CANNOT BE CONCEALED IN FINISHED AREAS, IT SHALL BE RUN EXPOSED IN A NEAT MANNER VIA SURFACE RACEWAY. MINIMUM CONDUIT SIZE SHALL BE 3/4". LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10' LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH NYLON PULL STRING. FOR ANY RACEWAY OVER 25' PROVIDE PULL STRING WITH CONDUIT MEASURING TAPE AND INDICATE DESIGNATION OF THE RACEWAY ON EACH END. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. LOCATIONS INDICATED FOR LOCAL WALL SWITCHES ARE SUBJECT TO MODIFICATIONS AT OR NEAR DOORS. COORDINATE WITH ARCHITECT AND INSTALL SWITCH ON LOCK/ LATCH SIDE OF DOOR. VERIFY FINAL HINGE LOCATIONS IN FIELD PRIOR TO SWITCH OUTLET INSTALLATION. SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND 18. FIREPROOFING. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS. COVERS OF JUNCTION AND PULLBOXES SHALL BE ACCESSIBLE. 19 PROVIDE PULLBOXES WHERE INDICATED, REQUIRED BY CODE AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE. COORDINATE PULLBOX LOCATIONS WITH OTHER TRADES. BOXES SHALL BE ACCESSIBLE AND GENERALLY NOT EXPOSED IN FINISHED SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. EMPTY RACEWAY RUNS: PROVIDE PULLBOXES EVERY 100' AND AS INDICATED. COORDINATE LOCATIONS WITH OTHER TRADES. THE PULLBOX SHALL BE INSTALLED EVERY 270° OF TOTAL CONDUIT TURNS. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION. CONNECT CONDUIT TO MOTOR TERMINAL BOXES WITH FLEXIBLE CONDUIT OF MINIMUM 18", MAXIMUM 6' LENGTH. (PROVIDE SUFFICIENT WIRING SLACK AT EACH END OF TERMINATION). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION ALL CUTTING AND PATCHING REQUIRED FOR THE ELECTRICAL WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL 24. CONTRACTOR. PROVIDE 2 #14AWG WIRING FOR INDICATING PILOT LIGHT FROM PILOT LIGHT IN CONTROLLER TO LOAD SIDE OF DISCONNECT SWITCH. RUN WIRES IN BRANCH CIRCUIT CONDUIT AND INCREASE CONDUIT SIZE AS REQUIRED. 26. PULL NO THERMOPLASTIC WIRES AT AMBIENT TEMPERATURES LOWER THAN 32°F (0°C). PROVIDE CABLE SUPPORTS FOR WIRE IN RISER CONDUITS AS REQUIRED BY CODE. PROVIDE SEPARATE SYSTEMS AND ENCLOSURES FOR 208/120V AND 480/277V POWER AND CONTROL WIRING AND SEPARATE SYSTEMS FOR EMERGENCY AND NORMAL POWER. THE EMERGENCY AND NORMAL SYSTEMS SHALL NOT BE INSTALLED IN THE SAME RACEWAYS, ENCLOSURES, JUNCTION BOXES, PULLBOXES, TERMINATION CABINETS, EXCEPT IN EQUIPMENT ENCLOSURES DESIGNED TO ACCEPT BOTH SYSTEMS SUCH AS AUTOMATIC TRANSFER SWITCH OR EMERGENCY LIGHTING. ALL PENETRATIONS THROUGH CONCRETE STRUCTURAL FLOORING SHALL BE SCANNED WITH GROUND PENETRATING RADAR (GPR). SUBMIT FINDINGS TO ENGINEER FOR APPROVAL PRIOR TO PENETRATION. FEEDER AND BRANCH CIRCUIT WIRING SHALL BE COPPER, 600 VOLT CONDUCTOR INSULATION TYPE THHN. THE MINIMUM SIZE 600 VOLT CONDUCTOR SHALL BE #12 AWG FOR POWER AND LIGHTING BRANCH CIRCUIT WIRING. THE MINIMUM SIZE CONDUIT SHALL BE 3/4". ALL CIRCUIT WIRING SIZES #10 AWG OR LARGER SHALL BE STRANDED AND SMALLER CONDUCTORS SHALL BE SOLID. BRANCH CIRCUITS 100 TO 200 FEET IN LENGTH UTILIZING #12 AWG WIRE SHALL BE INCREASED TO #10 AWG TO THE CENTER OF THE CIRCUIT LOAD AND #12 WIRE TO THE REMAINING DEVICES BEYOND THE LOAD CENTER. ADJUST CABLING SIZES REQUIRED TO MAINTAIN VOLTAGE DROP. WHERE CONDUIT RUNS CROSS STRUCTURAL EXPANSION JOINTS, LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED TO TRANSITION CONDUIT SYSTEM FROM ONE STRUCTURAL SECTION TO THE OTHER. VERIFY THAT ANY ELECTRICAL DEVICE OR PRODUCT WHICH IS TO BE RELOCATED OR REUSED IS IN PROPER WORKING CONDITION IN ACCORDANCE WITH INSTRUCTIONS INCLUDED IN ITS LISTING OR LABELING. ANY DEVICE OR PRODUCT FOUND TO BE DEFECTIVE OR DAMAGED SHALL BE REPLACED WITH NEW. LABEL WITH PERMANENT MARKER ALL JUNCTION BOXES AND RECEPTACLE OUTLET BOXES WITH CIRCUIT NUMBER AND PANEL IDENTIFICATION. ALL FINISHED AREA OUTLET PLATES SHALL BE LABELED WITH LABEL TAPE. WIRE COLOR CODING: AS PER CODE. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION FOR OVERLAP COLOR TAPING OF CONDUCTORS (MINIMUM LENGTH 6") IN ALL ACCESSIBLE LOCATIONS. COLOR CODING, ONCE SELECTED, MUST BE USED CONSISTENTLY FOR THE ENTIRE PROJECT. THE METHOD OF COLOR CODE IDENTIFICATION SHALL BE DOCUMENTED IN A MANNER THAT IS READILY AVAILABLE OR PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD. 480/277V - WYE SYSTEM: PHASES A = BROWN B = ORANGE C = YELLOW NEUTRAL = GRAY GROUNDING = GREEN WITH YELLOW STRIPES 208/120V - WYE SYSTEM: PHASES A = BLACK B = RED C = BLUE NEUTRAL = WHITE GROUNDING = GREEN 240/120V - DELTA SYSTEM WITH HIGH LEG: PHASES A = BLACK B (HIGH LEG) = ORANGE C = RED NEUTRAL = WHITE GROUNDING = GREEN 240/120 V SINGLE PHASE: PHASES A = BLACK B = RED NEUTRAL = WHITE GROUNDING = GREEN DC SYSTEM: POSITIVE = RED MID-WIRE = WHITE NEGATIVE = BLACK REPORT INCONSISTENCIES TO THE ENGINEER IN FORM OF "RFI" REQUEST FOR INFORMATION BEFORE ANY INACCURATE
- WORK IS EXECUTED.
- PROVIDE PROTECTIVE COVERINGS/WIRE GUARDS FOR ALL DEVICES AND EQUIPMENT IN GYMNASIUM. 36. OBTAIN ALL TESTS AND APPROVAL CERTIFICATIONS AS REQUIRED.
 - REMOVE ALL ELECTRICAL OUTLETS, SWITCHES AND OTHER DEVICES, COMPLETE WITH ASSOCIATED WIRING AND CONDUITS BACK TO NEAREST JUNCTION BOX THAT IS TO REMAIN OR TO PANELBOARD. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING WIRING TO REMAIN, INSTALL JUNCTION BOXES AND EXTEND FEEDER WITH MATCHING CABLE TYPE, CONDUCTOR AMPACITY AND CONDUIT SIZES.
- WHERE IT IS IMPRACTICAL TO REMOVE RACEWAY BACK TO SOURCE, DISCONNECT WIRING AT LOAD (EQUIPMENT) AND AT LINE SIDE, CUT AND CAP, FLUSH TO SURFACE, REMOVE CONDUCTORS FROM EXISTING RACEWAYS TO BE REWIRED. CLEAN RACEWAY AS REQUIRED PRIOR TO REWIRING.
- EXISTING PANEL DIRECTORIES AFFECTED BY THE ALTERATION WORK SHALL BE MODIFIED TO REFLECT THE BRANCH CIRCUIT WIRING CHANGES.

10.

GENERAL DEMOLITION NOTES:

- INCLUDE IN BID ALL COSTS ASSOCIATED WITH REMOVAL AND RELOCATION OF WORK AS DESCRIBED IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE ARCHITECT.
- REMOVE AND/OR RELOCATE ALL EXISTING WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL AND ELECTRICAL LAYOUTS IN FULL COORDINATION WITH THE ARCHITECT'S DEMOLITION PLANS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE SOURCE OF POWER SUPPLY.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP, AND FINISH, AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK.
- ALL EXISTING SYSTEMS WHICH BECOME EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- ALL UNUSED OUTLET BOXES OR CAPPED FLOOR OUTLETS SHALL BE PROVIDED WITH MATCHING BLANK COVERS NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND
- PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS. FOLLOW CLOSELY THE ARCHITECT'S DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF IN A LEGAL MANNER BY THE CONTRACTOR. AS DIRECTED BY THE OWNER. ITEMS OF SALVAGE SHALL BE CAREFULLY REMOVED AND STORED AT LOCATIONS DIRECTED BY THE OWNER.
- INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES, AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. NOTIFICATION MUST BE GIVEN AT LEAST 5 DAYS PRIOR TO SHUT DOWN. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
- ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- PATCH AND PAINTING OF EXISTING WALLS TO REMAIN WHICH ARE AFFECTED BY ELECTRICAL DEMOLITION, ARE TO BE COMPLETED UNDER GENERAL CONSTRUCTION SPECIFICATION.
- SURVEY AND RECORD THE CONDITION OF EXISTING FACILITIES TO REMAIN IN PLACE THAT MAY BE AFFECTED BY DEMOLITION OPERATIONS. THE CONTRACTOR SHALL VERIFY ALL EXISTING SOURCES OF POWER TO EQUIPMENT PRIOR TO FINAL REMOVAL.

EXISTING WORK THAT IS TO BE REMOVED SHALL BE LEGALLY DISPOSED OF. ALL WORK TO BE DISPOSED OF SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.

IF WORK REQUIRES THE INTERRUPTION FIRE ALARM AND FIRE PROTECTION SYSTEMS, ARRANGE WITH OWNER TO CONDUCT A FIRE WATCH WHILE THESE SYSTEMS ARE OUT OF SERVICE. CONSULT WITH FIRE MARSHALL PRIOR TO FIRE WATCH.

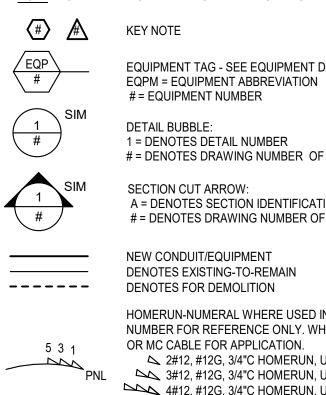
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SHEET NUMBER	DRAWING TITLE
ELECTRICAL	DRAWING TITLE
ELECTRICAL	ELECTRICAL INDEX SHEET
E001-R.2 E100-R.2	ELECTRICAL INDEX SHEET
E100B-R.2	ELECTRICAL DEMOLITION - LOWER LEVEL DEDUCT ALT.
E101-R.2	ELECTRICAL DEMOLITION - FIRST FLOOR
E102-R.2	ELECTRICAL DEMOLITION - SECOND FLOOR
E200-R.2	ELECTRICAL PROPOSED POWER - LOWER LEVEL BASE SCOPE
E200B-R.2	ELECTRICAL PROPOSED POWER - LOWER LEVEL DEDUCT ALT.
E200C-R.2	ELECTRICAL PROPOSED POWER - LOWER LEVEL ADD ALT.
E201-R.2	ELECTRICAL PROPOSED POWER - FIRST FLOOR
E202-R.2	ELECTRICAL PROPOSED POWER - SECOND FLOOR
E203-R.2	ELECTRICAL PROPOSED POWER - ATTIC/ROOF
E204-R.2	ELECTRICAL PROPOSED POWER - SITE PLAN
E300-R.2	ELECTRICAL PROPOSED LIGHTING - LOWER LEVEL BASE SCOPE
E300B-R.2	ELECTRICAL PROPOSED LIGHTING - LOWER LEVEL DEDUCT ALT.
E300C-R.2	ELECTRICAL PROPOSED LIGHTING - LOWER LEVEL ADD ALTERNATE
E301-R.2	ELECTRICAL PROPOSED LIGHTING - FIRST FLOOR
E302-R.2	ELECTRICAL PROPOSED LIGHTING - SECOND FLOOR
E303-R.2	ELECTRICAL PROPOSED LIGHTING - ATTIC
E400-R.2	ELECTRICAL SINGLE-LINE DIAGRAM - EXISTING
E401-R.2	ELECTRICAL SINGLE-LINE DIAGRAM - PROPOSED
E500-R.2	ELECTRICAL SCHEDULES
E501-R.2	ELECTRICAL SCHEDULES
E502-R.2	ELECTRICAL SCHEDULES
E503-R.2	ELECTRICAL SCHEDULES
E600-R.2	ELECTRICAL DETAILS

General Compliance - PA

DESIGN AND PERFORMANCE OF COMPONENTS AND METHODS SPECIFIED HEREIN SHALL COMPLY WITH THE LATEST ADOPTED VERSIONS OF THE STATE OF PENNSYLVANIA CODES, AND STANDARDS LISTED BELOW BUT NOT LIMITED TO:

IBC	INTERNATIONAL BUILDING CODE
IECC	INTERNATIONAL ENERGY CONSERVATION CODE
NEC, NFPA 70	NATIONAL ELECTRICAL CODE
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE
NFPA 101	LIFE SAFETY CODE
NFPA 70E	STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE
NFPA110	STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS
NFPA 780	STANDARD FOR LIGHTING PROTECTION SYSTEMS

<u>GE</u> <u>NOTE:</u>



	AL SYMBOLS (MBOLS ARE NECESSARILY USED ON THIS PROJECT)		R SYMBOLS SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)	NOTE: NOT A	REVIATIONS LL SYMBOLS ARE
	KEY NOTE EQUIPMENT TAG - SEE EQUIPMENT DATA SHEET: EQPM = EQUIPMENT ABBREVIATION # = EQUIPMENT NUMBER	$\mathcal{O} \mathcal{O}$	JUNCTION BOX / TERMINATION TO EQUIPMENT INSTALLED WITHIN 2' OF EQUIPMENT WHERE REQUIRED AND DEDICATED FOR: VAV VARIABLE AIR VOLUME BOX MD MOTORIZED VOLUME DAMPER SD SMOKE DAMPER	1P 2P 3P A AF AFF	Y USED ON THIS PROJECT) SINGLE POLE TWO POLE THREE POLE AMPERE AMPERE FRAME ABOVE FINISHED FLOOR
SIM	DETAIL BUBBLE: 1 = DENOTES DETAIL NUMBER # = DENOTES DRAWING NUMBER OF DETAIL LOCATION SECTION CUT ARROW:	M	CUH CABINET UNIT HEATER EUH ELECTRIC UNIT HEATER FCU FAN COIL UNIT HT HEAT TRACE JUNCTION BOX/TERMINATION TO MOTOR. INSTALLED WITHIN 2' OF EQUIPMENT WHERE REQUIRED AND	AIC AT ATS AWG BLDG	AMPERE INTERRUPTING CAPACITY AMPERE TRIP AUTOMATIC TRANSFER SWITCH AMERICAN WIRE GAUGE BUILDING
*	A = DENOTES SECTION IDENTIFICATION # = DENOTES DRAWING NUMBER OF SECTION DETAIL NEW CONDUIT/EQUIPMENT		DEDICATED FOR: EF EXHAUST FAN HD HAND DRYER 15 or 20A, 125V DUPLEX RECEPTACLE, FLUSH WALL MOUNTED @ 18" AFF, UON	C ℃ CB CCTV	CONDUIT DEGREE CELSIUS CIRCUIT BREAKER CLOSED CIRCUIT TELEVISION
531	DENOTES EXISTING-TO-REMAIN DENOTES FOR DEMOLITION HOMERUN-NUMERAL WHERE USED INDICATES DESIGNATED PANEL AND CIRCUIT NUMBER FOR REFERENCE ONLY. WHERE CONDUIT IS NOT SPECIFIED USE AC OR MC CABLE FOR APPLICATION.	Фc	C = GRAY COLORED RECEPTACLE, FLOSH WALL MOUNTED @ 18 AFF, OON C = GRAY COLORED RECEPTACLE FOR COMPUTERS OR OTHER EQUIPMENT T = TAMPER RESISTANT XP = EXPLOSION PROOF AFI = ARC FLASH CIRCUIT INERRUPTER	CD CL CKT CONT CU	CANDELA CEILING MOUNT CIRCUIT CONTINUATION COPPER
PNL	4#12, #12G, 3/4"C HOMERUN, UON AT 120V AND OVER 100' CIRCUIT LENGTH PROVIDE #10 MINIMUM.	†	15 or 20A, 125V QUADRUPLEX RECEPTACLE FLUSH WALL MOUNTED @ 18" AFF, UON 20A, 125V, 2P W/G. SINGLE GFI RECEPTACLE	DEG D DIA DISC	DEGREE DEMOLITION DIAMETER DISCONNECT
	AT 277V AND OVER 200' CIRCUIT LENGTH PROVIDE #10 MINIMUM.	Φ _{ewc}	FLUSH WALL MOUNTED @ 18" AFF, UON EWC = ELECTRIC WATER COOLER 15 or 20A, 125V DUPLEX RECEPTACLE, GFI TYPE	DIV EA EC ELEC	DIVISION EACH ELECTRICAL CONTRACTOR ELECTRICAL
<u>GHTII</u>	NG SYMBOLS	πwP	FLUSH WALL MOUNTED @ 18" AFF, UON WP = WEATHER PROOF	EM EMT E	EMERGENCY ELECTRICAL METALLIC TUBING EXISTING
a A	DIMMER ZONE HOMERUN	Ŷ	15 OR 20A, 125V EMERGENCY DUPLEX RECEPTACLE FLUSH WALL MOUNTED @ 18" AFF, UON 15 OR 20A, 125V EMERGENCY QUADRUPLEX RECEPTACLE	°F FA FACP	DEGREE FAHRENHEIT FIRE ALARM FIRE ALARM CONTROL PANEL
Ô	CEILING MOUNTED DOWNLIGHT CONNECTED TO NORMAL CIRCUIT	•	15 OR 20A, 125V DUPLEX RECEPTACLE, W/ ISOLATED GROUND	FACP FAAP FATC (FBO)	FIRE ALARM CONTROL PANEL FIRE ALARM ANNUNCIATOR PANEL FIRE ALARM TERMINATION CABINET FURNISHED BY OTHERS
	A = FIXTURE TYPE CEILING MOUNTED DOWNLIGHT CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR	P	FLUSH WALL MOUNTED @ 18" AFF, UON	FC FDR FL	FOOT CANDLE FEEDER FLOOR
_ A	90 MINUTES BATTERY BACKUP A = FIXTURE TYPE CEILING MOUNTED DOWNLIGHT CONNECTED TO CRITICAL/STANDBY CIRCUIT	† 1	FLUSH WALL MOUNTED @ 18" AFF, UON NUMBER INDICATES QUANTITIES OF IG TYPE RECEPTACLES. 1 = ONE DUPLEX IG TYPE & ONE DUPLEX STANDARD G. RECEPTACLE 2 = QUADRUPLEX IG TYPE RECEPTACLES	FLA FLEX FMC G	FULL LOAD AMPERES FLEXIBLE FLEXIBLE METAL CONDUIT GROUND
	A = FIXTURE TYPE 2'X4'/2'X2'/4'X1' FLUORESCENT CEILING MOUNTED FIXTURE	φ	15 OR 20A, 125V SINGLE RECEPTACLE, W/ ISOLATED GROUND FLUSH WALL MOUNTED @ 18" AFF, UON	GFI GRC	GROUND FAULT INTERRUPTER GALVANIZED RIGID CONDUIT
	A = FIXTURE TYPE	(15 OR 20A, 125V SURGE SUPPRESSION DUPLEX RECEPTACLE FLUSH WALL MOUNTED @ 18" AFF, UON	HP HZ IG	HORSE POWER HERTZ ISOLATED GROUND
A	2'X4'/2'X2'/4'X1' FLUORESCENT CEILING MOUNTED FIXTURE EQUIPPED CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR 90 MINUTES BATTERY BACKUP A = FIXTURE TYPE	♥ _{L5-20}	SPECIAL PURPOSE RECEPTACLE. NEMA TYPE AS INDICATED FLUSH WALL MOUNTED @ 18" AFF, UON 20A, 125V DUPLEX RECEPTACLE FLUSH CEILING MOUNTED, UON	IMC JB	INTERMEDIATE METAL CONDUIT
	LIGHT TRACK-TYPE 'A' WITH TRACK MOUNTED FIXTURE TYPE 'B'	⊕	D = DROP CORD RECEPTACLE 20A, 125V QUADRUPLEX RECEPTACLE FLUSH CEILING MOUNTED	KCMIL/MCM KV KVA	THOUSAND CIRCULAR MILS KILOVOLT KILOVOLT AMPERE
	WALL/CEILING SURFACE MOUNTED FLUORESCENT STRIP FIXTURE-TYPE AS NOTED	O L5-20	SPECIAL PURPOSE RECEPTACLE. NEMA TYPE AS INDICATED FLUSH CEILING MOUNTED	KW KWH LTG	KILOWATT KILOWATT HOUR LIGHTING
A A P	A = FIXTURE TYPE WALL MOUNTED SCONCE LIGHT FIXTURE		20A, 125V DUPLEX RECEPTACLE FLUSH FLOOR MOUNTED 20A, 125V QUADRUPLEX RECEPTACLE	MCB MCC	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER
A 1	A = FIXTURE TYPE ACCENT LIGHT OR WALL WASHER A = FIXTURE TYPE	•	FLUSH FLOOR MOUNTED JUNCTION BOX OR POKE-THRU FOR ELECTRIFIED FURNITURE POWER FEED	MGB MI MTD	MAIN GROUNDING BUSBAR MINERAL INSULATED, METAL-SHEATHED CABLE MOUNTED
а а Д	A = FIXTURE TYPE EXTERIOR LIGHTING FIXTURE (BRACKET TYPE) A = FIXTURE TYPE	L 5-20	FLUSH FLOOR MOUNTED SPECIAL PURPOSE RECEPTACLE. NEMA TYPE AS INDICATED FLUSH FLOOR MOUNTED	N NC	NEUTRAL NORMALLY CLOSED
• -	ROADWAY LIGHTING FIXTURE-SINGLE ARM A = FIXTURE TYPE	<u> </u>	MULTIOUTLET ASSEMBLY - SURFACE MOUNTED POWER AND DATA WITH DIVIDER. DEVICES AS INDICATED ON	NO P	NORMALLY OPEN POLE
ຉଘ	ROADWAY LIGHTING FIXTURE-DOUBLE ARM A = FIXTURE TYPE	• EPO	PLANS PUSH-BUTTON STATION	PB (PBF) Ø	PULL BOX PROVIDED BY FACTORY PHASE
5 \$ 1	CEILING/WALL MOUNTED EXIT SIGN DIRECTIONAL ARROWS WHERE INDICATED SHADED AREAS INDICATE ILLUMINATED FACE/FACES EMERGENCY BATTERY LIGHT UNIT	EPO	WALL MOUNTED @ 48" AFF, UON DB = DOOR BELL ACTIVATION DR = DOOR LOCK RELEASE EPO = EMERGENCY POWER OFF SWITCH HOA = HAND-OFF-AUTOMATIC SWITCH HC = HANDICAP DOOR ASSIST	PNL PVC PWR REC RMC	PANEL POLYVINYL CHLORIDE CONDUIT POWER RECEPTACLE RIGID METAL CONDUIT
<u>Ч</u>	A = FIXTURE TYPE REMOTE LIGHT HEADS FOR EMERGENCY BATTERY LIGHT UNIT TYPE AS NOTED		K = KEY OPERATED P = PANIC BUTTON	SPD SPEC	SURGE PROTECTION DEVICE SPECIFICATION
S	SINGLE POLE SWITCH FLUSH WALL MOUNTED @ 48" AFF, UON	РВ H	PULLBOX HANDHOLE	SW SWBD SWGR SYS	SWITCH SWITCHBOARD SWITCHGEAR SYSTEMS
	3 = THREE-WAY 4 = FOUR-WAY D = INTEGRAL DIMMER K = KEY OPERATED		TRANSFORMER FLOOR MOUNTED METAL SUPPORT FRAME FOR ELECTRICAL ENCLOSURES	TVSS TYP UON	TRANSIENT VOLTAGE SURGE SUPPRESSION TYPICAL UNLESS OTHERWISE NOTED
\$	T = TIME SWITCH MECHANICAL TOGGLE SWITCH	\$1P \$20A	MOTOR RATED TOGGLE SWITCH, 20A SINGLE POLE, UON HORSEPOWER RATED WITH OVERLOAD PROTECTION. 1P,2P = SIMLIAR TO SQUARE D # KG1, 30A MAX 3P = SIMLIAR TO SQUARE D # KG2, 30A MAX	UPS V VFD WP XFMR	UNINTERRUPTED POWER SUPPLY VOLTS VARIABLE FREQUENCY DRIVE WEATHERPROOF TRANSFORMER
9 @	OCCUPANCY SENSOR/ VACANCY SENSOR. 180° RANGE WALL MOUNTED @ 10" BELOW FINISHED CEILING	100/30/3 VFD 10 HP	COMBINATION MOTOR CONTROLLER / DISCONNECT SWITCH WITH BYPASS <switch amps="">/<poles>, VOLTAGE RATING AS REQUIRED VFD = VARIABLE FREQUENCY DRIVE HP AS INDICATED ON DRAWINGS</poles></switch>	Υ Υ Δ	WYE DELTA
3 (S	OCCUPANCY SENSOR/ VACANCY SENSOR. 360° RANGE CEILING MOUNTED	SIZE 0	MAGNETIC MOTOR STARTER - NEMA STARTER SIZE AS INDICATED ON DRAWINGS		
© ©	PHOTOCELL CONTROL SWITCH - WALL MOUNTED OUTDOOR PHOTOCELL DAYLIGHT HARVESTING CONTROL SWITCH, CEILING MOUNTED	30/3	UNFUSED DISCONNECT SWITCH, HEAVY DUTY <switch amps="">/<poles>, VOLTAGE RATING AS REQUIRED</poles></switch>		
K1	INDOOR AUTOMATIC LOAD CONTROL RELAY - PER UL924 WHEN NORMAL POWER IS AVAILABLE, LOAD LIGHTS SHALL BE CONTROLLABLE WHEN NORMAL POWER FAILS, RELAY SWITCHES TO EMERGENCY POWER	60/30/3	FUSED DISCONNECT SWITCH, HEAVY DUTY <switch amps="">/<fuse amps="">/<poles>, VOLTAGE RATING AS REQUIRED ENCLOSED CIRCUIT BREAKER <frame amps=""/>/<trip amps="">/<poles>, VOLTAGE RATING AS REQUIRED</poles></trip></poles></fuse></switch>		
PK	SOURCE AND LOAD LIGHTS ARE FORCED ON. POWER PACK FOR LIGHTING		ST = SHUNT TRIP 208/120V [OR 240/120V] PANELBOARD		
LDP A 2000	LIGHTING DIMMER PANEL, WALL MOUNTED @ 48" AFF, UON TYPE A, 2000W MIN WATTAGE RATING, UON		SURFACE MOUNTED 208/120V [OR 240/120V] PANELBOARD		
XXX	LIGHTING CONTROLS SEQUENCE OF OPERATION OCCUPANCY TYPE TAG		FLUSH MOUNTED 208/120V [OR 240/120V] DISTRIBUTION PANELBOARD SURFACE MOUNTED		
	E LINE SYMBOLS (MBOLS ARE NECESSARILY USED ON THIS PROJECT)	o ə	CONDUIT OR RACEWAY TURNING UP CONDUIT OR RACEWAY TURNING DOWN		
$\overset{\text{L}}{\overset{\text{V}}{\underset{M}{\overset{500}{\times}}}}_{208/120V}$	POWER TRANSFORMER VOLTAGES, WINDINGS AND SIZE AS INDICATED	 	CONDUIT WITH CAP CONDUIT WITH BUSHING SPLICE (JUNCTION) OF PATHS OF CONDUCTORS OR CABLES.		
Ŧ	GROUND CONNECTION		TAPBOX, SPLICE BOX		
0/100 	FUSED SWITCH <switch amps="">/<type 'fa'="" amps="" fuse=""> UNFUSED SWITCH</type></switch>	BMS	BMS CONTROL PANEL BMS = PRIMARY BMS PANEL SBMS = SECONDARY BMS PANEL		

SIN NOTE:

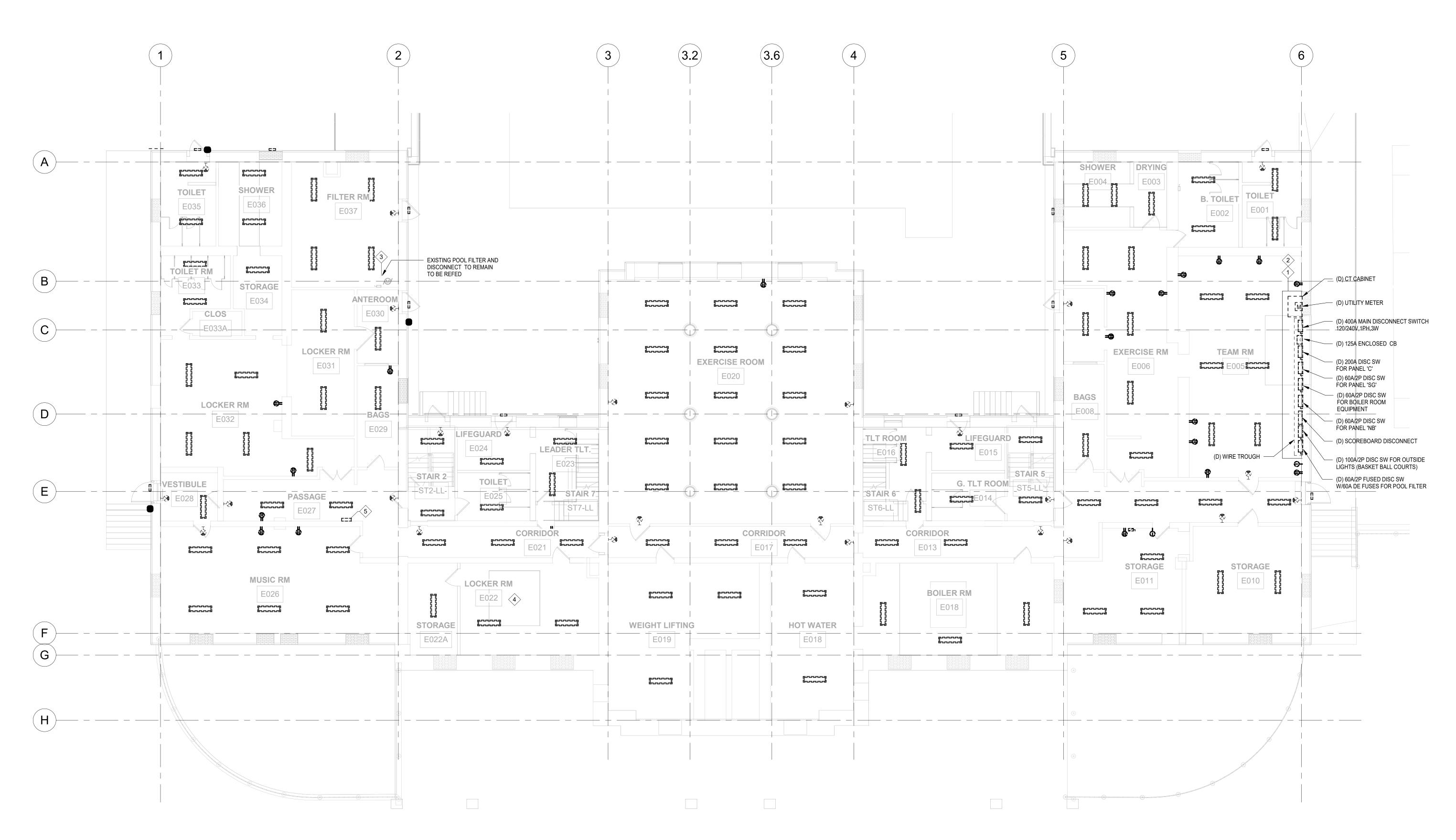
V 500KVA 208/120V	POWER TRANSFORMER VOLTAGES, WINDINGS AND SIZE AS IN
	GROUND CONNECTION FUSED SWITCH <switch amps="">/<type 'fa'="" amp<="" fuse="" th=""></type></switch>
100	UNFUSED SWITCH <switch amps=""></switch>
100/90	CIRCUIT BREAKER - MOLDED CASE TY <frame amps=""/> / <trip amps=""></trip>
100/90	CIRCUIT BREAKER - DRAW-OUT TYPE <frame amps=""/> / <trip amps=""></trip>
2000/1600	NETWORK PROTECTOR <frame amps=""/> / <trip amps=""></trip>
	DIGITAL MULTIMETER
×××/5 3	CURRENT TRANSFORMER NUMBER AND RATIO AS INDICATED

TRANSIENT VOLTAGE SURGE SUPPRESSION

XXX/5

_XMY





1 ELECTRICAL DEMOLITION - REC CENTER LOWER LEVEL - BASE SCOPE

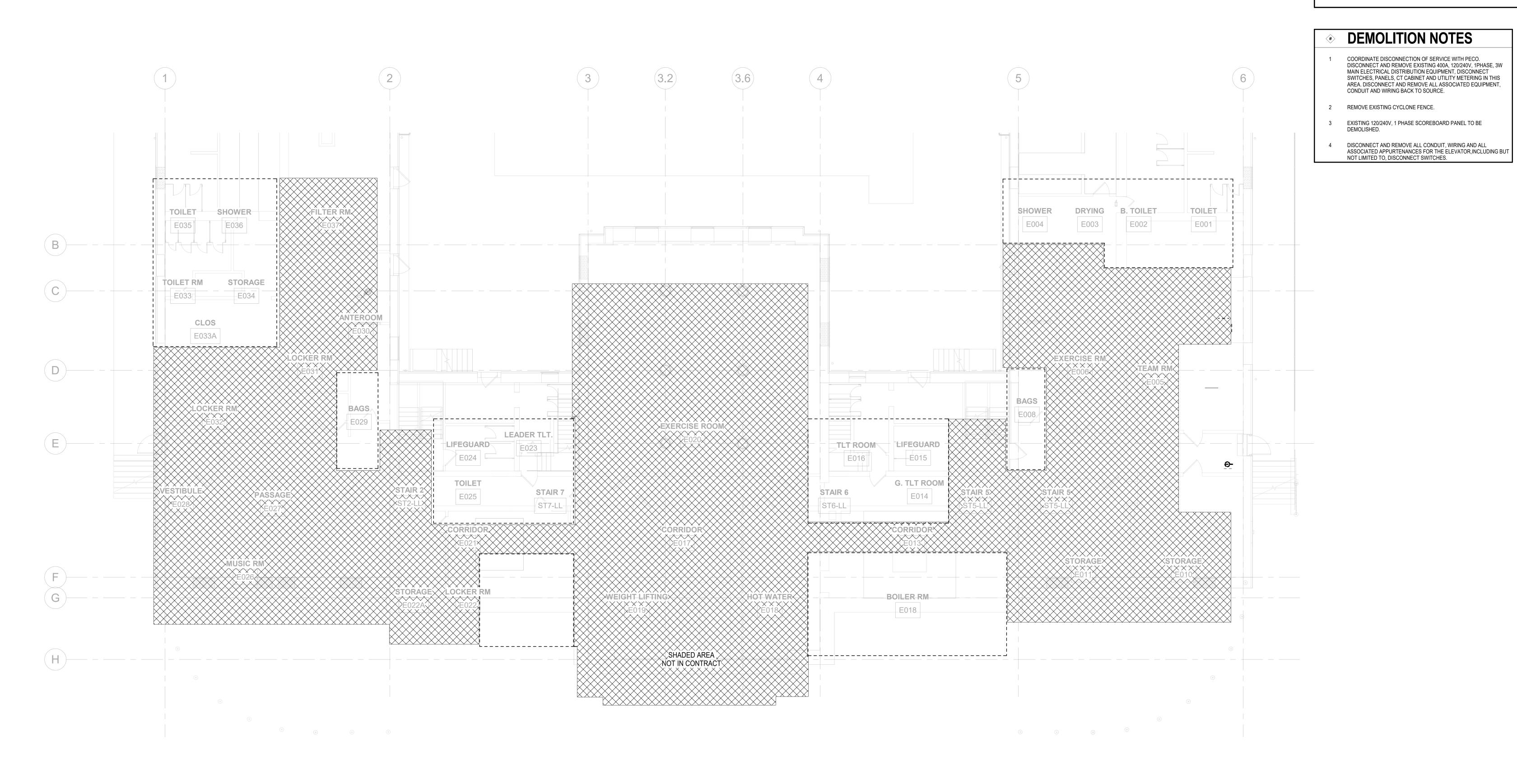
GENERAL DEMOLITION NOTES

- CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL QUANITITES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.
- 2. REPAIR ANY SURFACES DISTRUBED DURING REMOVAL OR REPLACEMENT OF EQUIPMENT AND DEVICES. PREPARE REPAIRED SURFACES FOR NEW FINISHES IN NEW WORK PHASE.
- 3. DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES. NOTE RECEPTACLES SHOWN ON PLAN MAY NOT INCLUDE ALL RECEPTACLES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL RECEPTACLES, ASSOCIATED EQUIPMENT, CONDUIT AND WIRING BACK TO SOURCE.
- DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES. NOTE LIGHT FIXTURES SHOWN ON PLAN MAY NOT INCLUDE ALL FIXTURES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL LIGHT FIXTURES, ASSOCIATED EQUIPMENT, CONTROLS, CONDUIT AND WIRING BACK TO SOURCE.
 DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL CONNECTIONS SERVICING
- 5. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL CONNECTIONS SERVICING OUTSIDE AIR INTAKE FANS AND ANY OTHER MISCELLANEOUS EXISTING MECHANICAL \HVAC EQUIPMENT AS SHOWN ON THE MECHANICAL DEMOLITON PLANS. REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT AND WIRE BACK TO SOURCE.

DEMOLITION NOTES

- COORDINATE DISCONNECTION OF SERVICE WITH PECO. DISCONNECT AND REMOVE EXISTING 400A, 120/240V, 1PHASE, 3W MAIN ELECTRICAL DISTRIBUTION EQUIPMENT, DISCONNECT SWITCHES, PANELS, CT CABINET AND UTILITY METERING IN THIS AREA. DISCONNECT AND REMOVE ALL ASSOCIATED EQUIPMENT, CONDUIT AND WIRING BACK TO SOURCE.
- REMOVE EXISTING CYCLONE FENCE.
- DISCONNECT EXISTING POOL FILTER FROM UNFUSED DISCONNECT SWITCH ON THE LINE SIDE. REMOVE EXISTING WIRING BACK TO POINT OF ORIGIN. RETAIN CONDUIT FOR RE-USE. PROTECT EQUIPMENT DURING WORK.
- 4 DISCONNECT AND REMOVE ALL CONDUIT, WIRING AND ALL ASSOCIATED APPURTENANCES FOR THE ELEVATOR, INCLUDING BUT NOT LIMITED TO, DISCONNECT SWITCHES.
- 5 DISCONNECT AND REMOVE DISTRIBUTION PANEL.





1 ELECTRICAL DEMOLITION - REC CENTER LOWER LEVEL - ALTERNATE R-3 E 00B-R/2 1/8" = 1'-0"

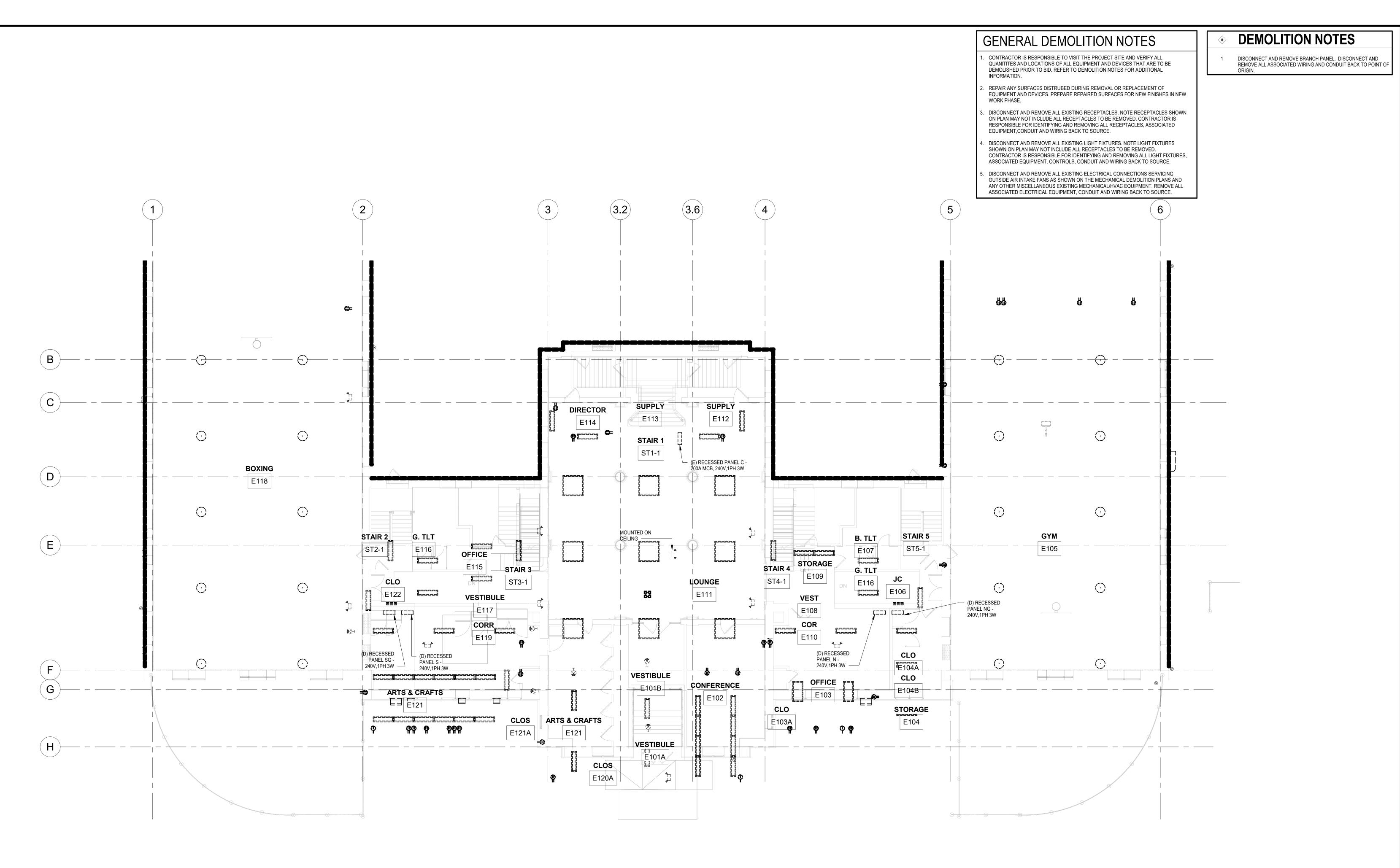
GENERAL DEMOLITON NOTES

QUANITITES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.

. CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL

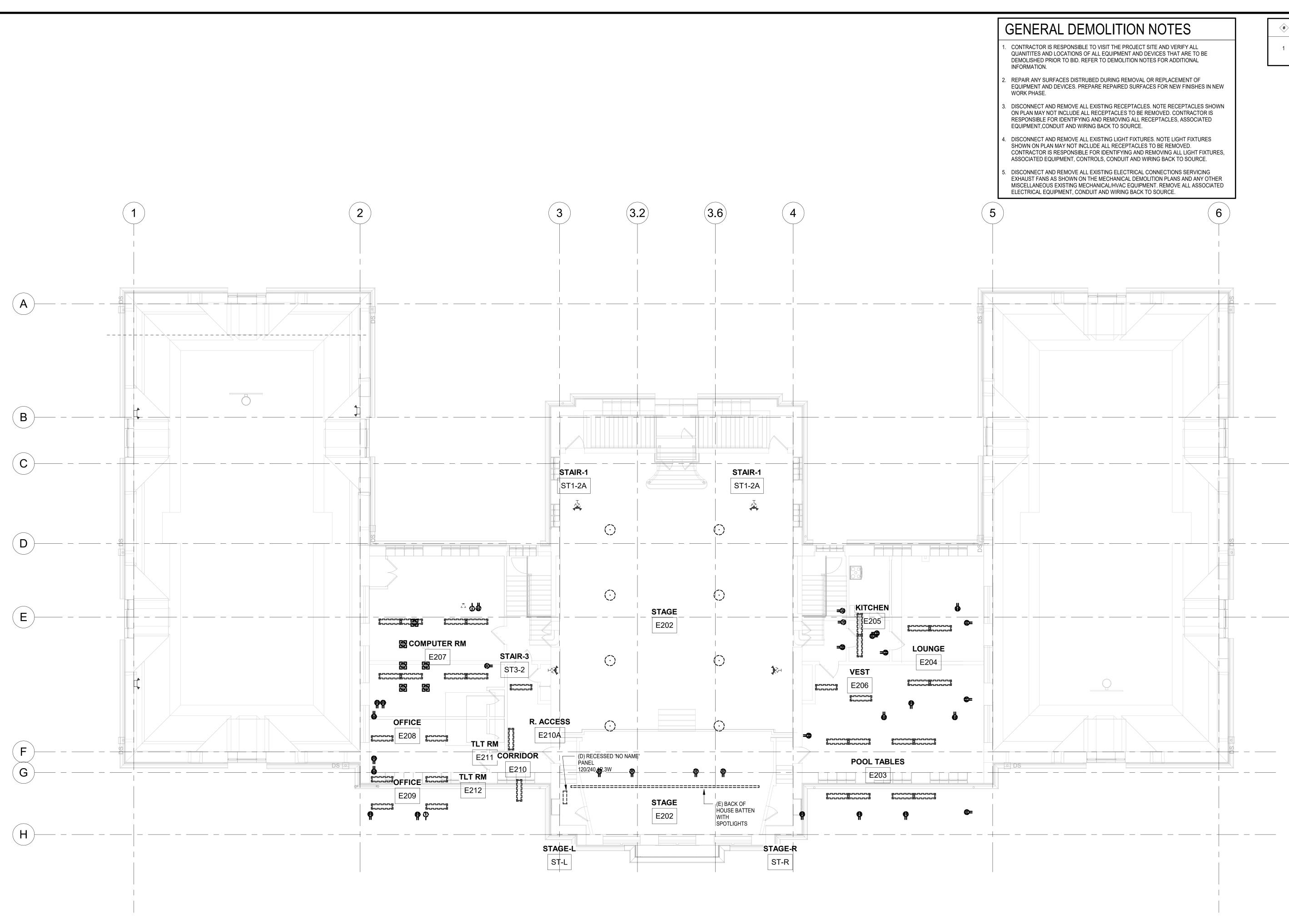
- REPAIR ANY SURFACES DISTRUBED DURING REMOVAL OR REPLACEMENT OF EQUIPMENT AND DEVICES. PREPARE REPAIRED SURFACES FOR NEW FINISHES IN NEW WORK PHASE.
- 3. DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES. NOTE RECEPTACLES SHOWN ON PLAN MAY NOT INCLUDE ALL RECEPTACLES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL RECEPTACLES, ASSOCIATED EQUIPMENT, CONDUIT AND WIRING BACK TO SOURCE.
- 4. DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES. NOTE LIGHT FIXTURES SHOWN ON PLAN MAY NOT INCLUDE ALL RECEPTACLES TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND REMOVING ALL LIGHT FIXTURES, ASSOCIATED EQUIPMENT, CONTROLS, CONDUIT AND WIRING BACK TO SOURCE.
- 5. DISCONNECT AND REMOVE EXISTING EXIT SIGNS AND ASSOCIATED WIRING AND CONDUIT
- 6. DISCONNECT AND REMOVE EXISTING EMERGENCY BATTERY UNITS AND ASSOCIATED WIRING AND CONDUIT.





1 ELECTRICAL DEMOLITION - REC CENTER FIRST FLOOR E101-R 2 1/8" = 1'-0"





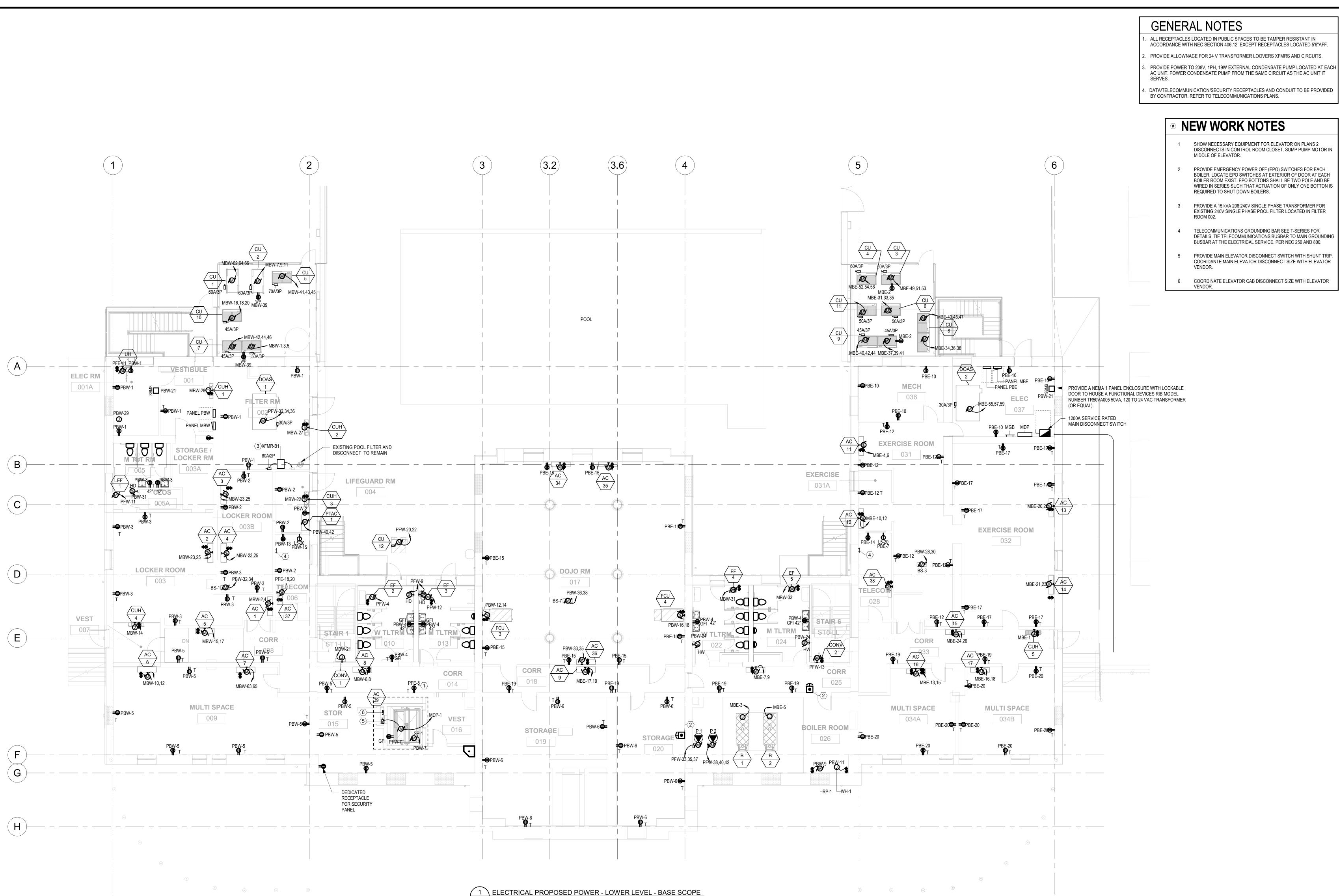
1 ELECTRICAL DEMOLITION - REC CENTER SECOND FLOOR E102-R 2 1/8" = 1'-0"

DEMOLITION NOTES

ORIGIN.

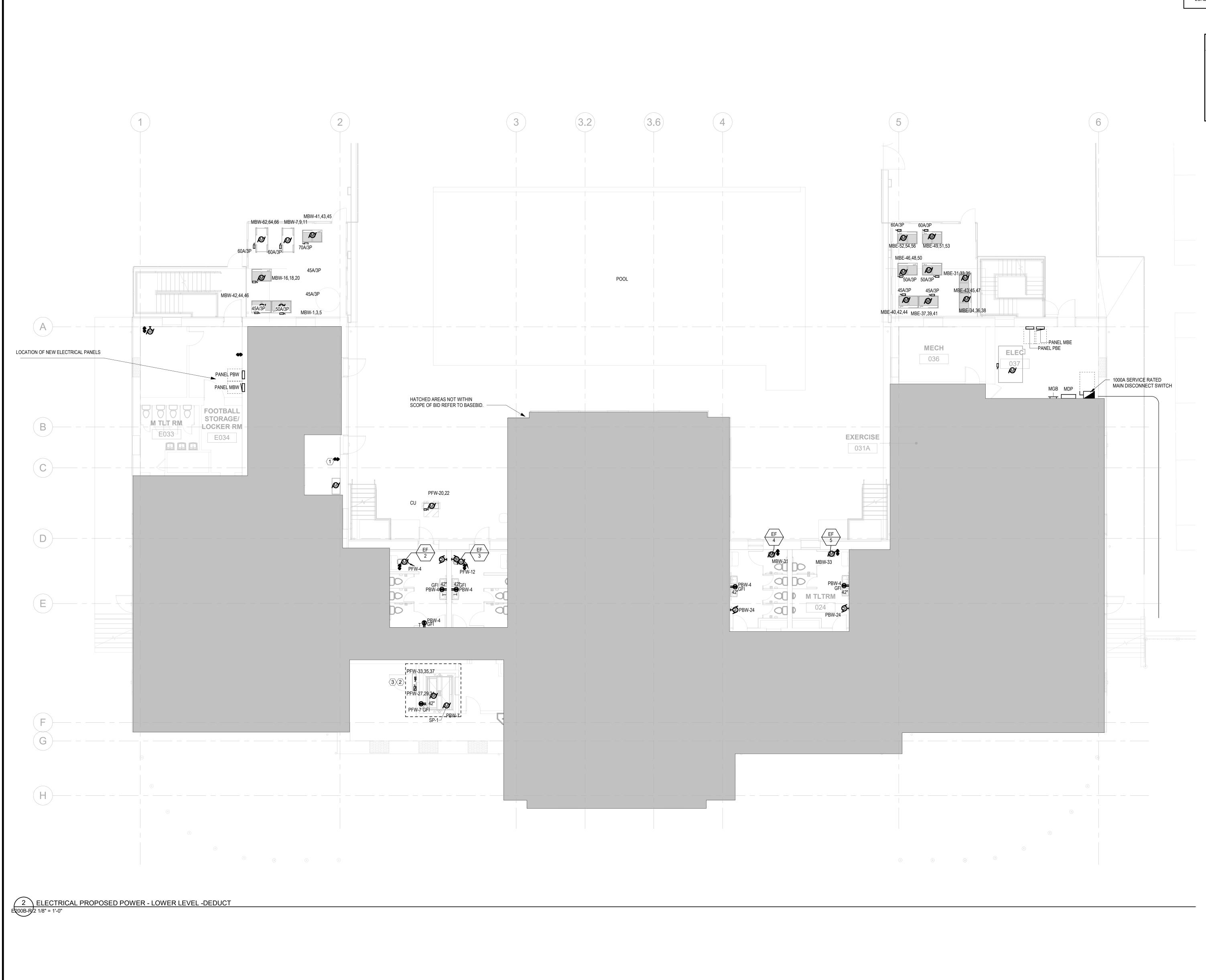
DISCONNECT AND REMOVE BRANCH PANEL. DISCONNECT AND REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO POINT OF





1 ELECTRICAL PROPOSED POWER - LOWER LEVEL - BASE SCOPE 200-R 2 1/8" = 1'-0"





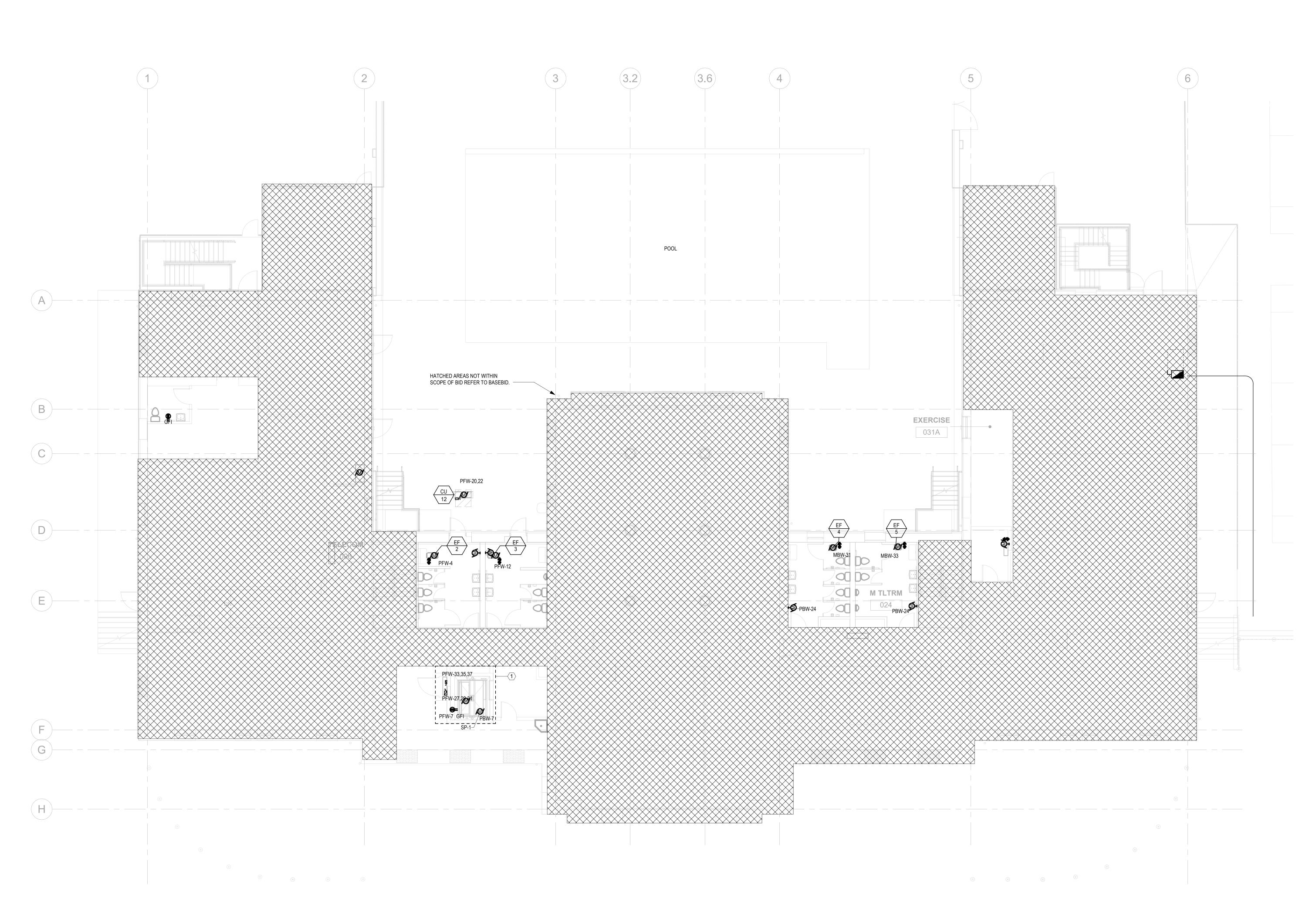
GENERAL NOTES

- 1. ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- PROVIDE ALLOWNACE FOR 24 V TRANSFORMER LOOVERS XFMRS AND CIRCUITS.
 PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH
- AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT SERVES.
- 4. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.
- 5. FOR ALTERNATIVE BID, CONTRACTOR TO PROVIDE ALL NEW ELECTRICAL PANELS AS PER THE BASE BID AND UTILIZE NEW PANELS FOR EXISTING EQUIPMENT AND LIGHTING LOADS NOT REPLACED IN ALTERNATE BID.

NEW WORK NOTES

- PROVIDE A 15 kVA 208:240V SINGLE PHASE TRANSFORMER FOR EXISTING 240V SINGLE PHASE POOL FILTER LOCATED IN FILTER ROOM 002.
- 2 PROVIDE MAIN ELEVATOR DISCONNECT SWITCH WITH SHUNT TRIP. COORIDANTE MAIN ELEVATOR DISCONNECT SIZE WITH ELEVATOR VENDOR.
- 3 COORDINATE ELEVATOR CAB DISCONNECT SIZE WITH ELEVATOR VENDOR.



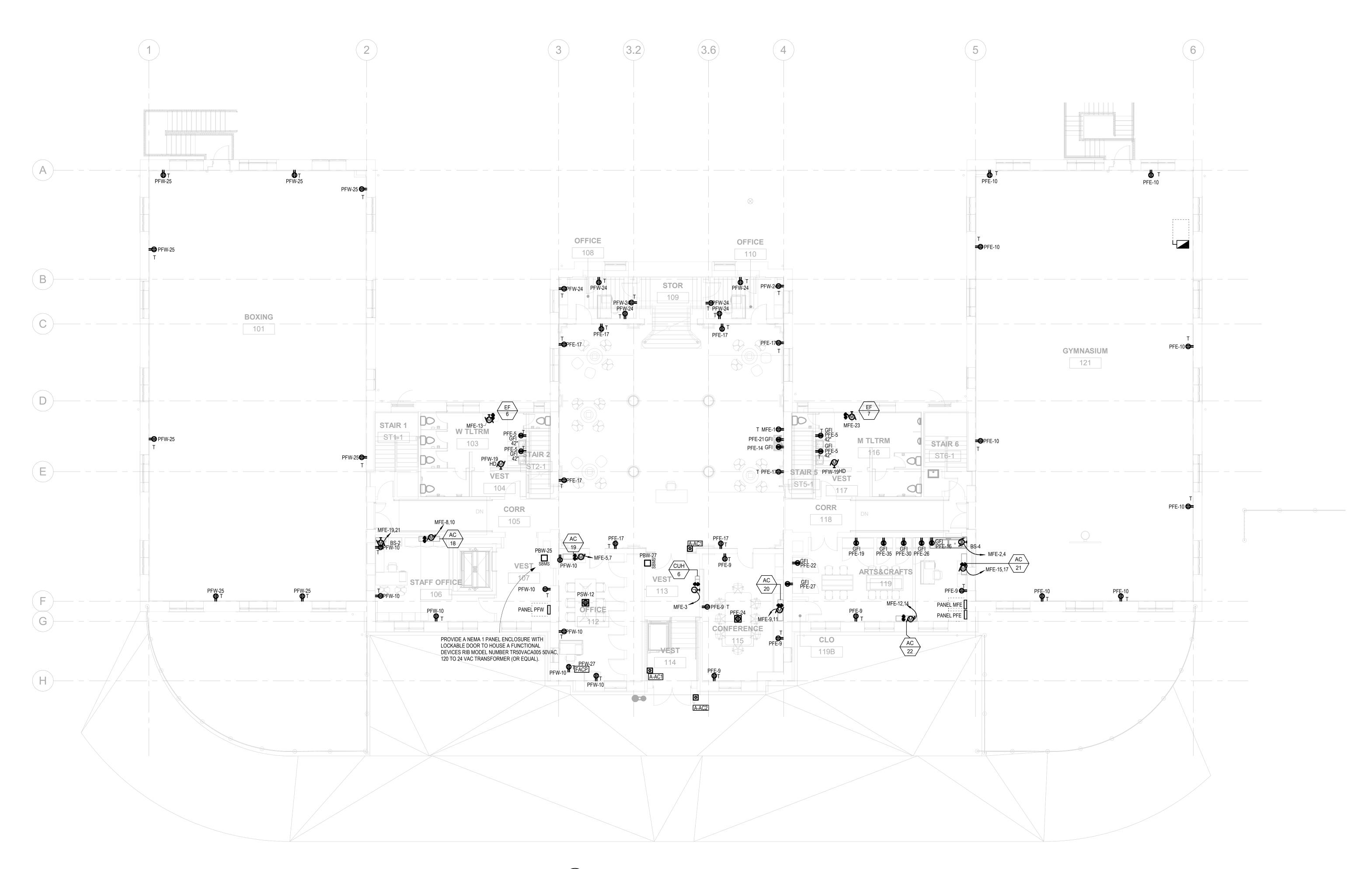


2 ELECTRICAL PROPOSED POWER - LOWER LEVEL - ADD ALTERNATE E200C-R-2 1/8" = 1'-0"

GENERAL NOTES

- 1. ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- PROVIDE ALLOWNACE FOR 24 V CONTROL XFMRS AND CIRCUITS.
 PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT SERVES.
- 4. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.
- 5. FOR ALTERNATIVE BID, CONTRACTOR TO PROVIDE ALL NEW ELECTRICAL PANELS AS PER THE BASE BID AND UTILIZE NEW PANELS FOR EXISTING EQUIPMENT AND LIGHTING LOADS NOT REPLACED IN ALTERNATE BID.





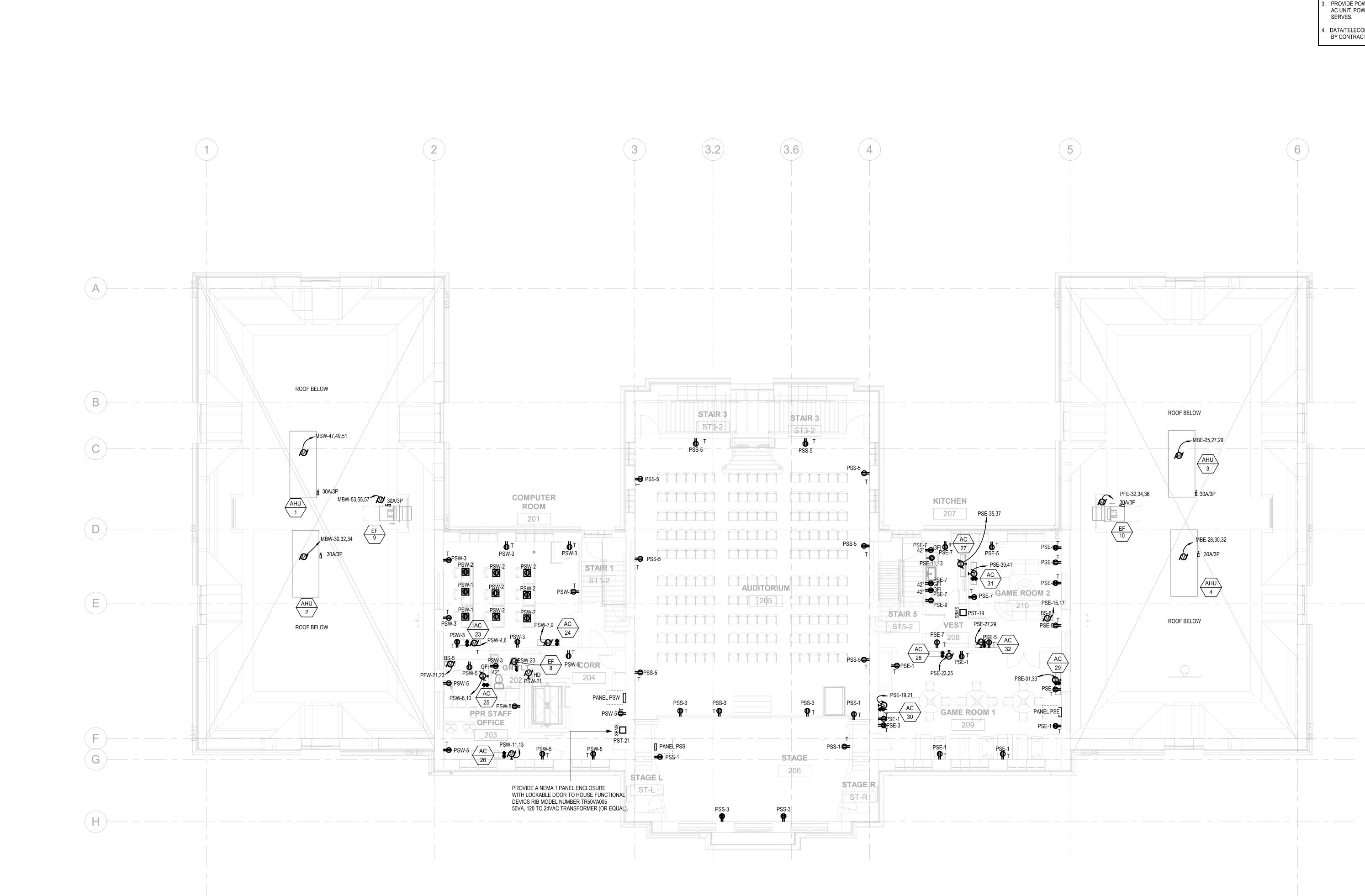
1 ELECTRICAL PROPOSED POWER - REC CENTER FIRST FLOOR E201-R2 1/8" = 1'-0"

GENERAL NOTES

SERVES.

- ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- PROVIDE ALLOWNACE FOR 24 V CONTROL XFMRS AND CIRCUITS.
 PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT
- 4. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.





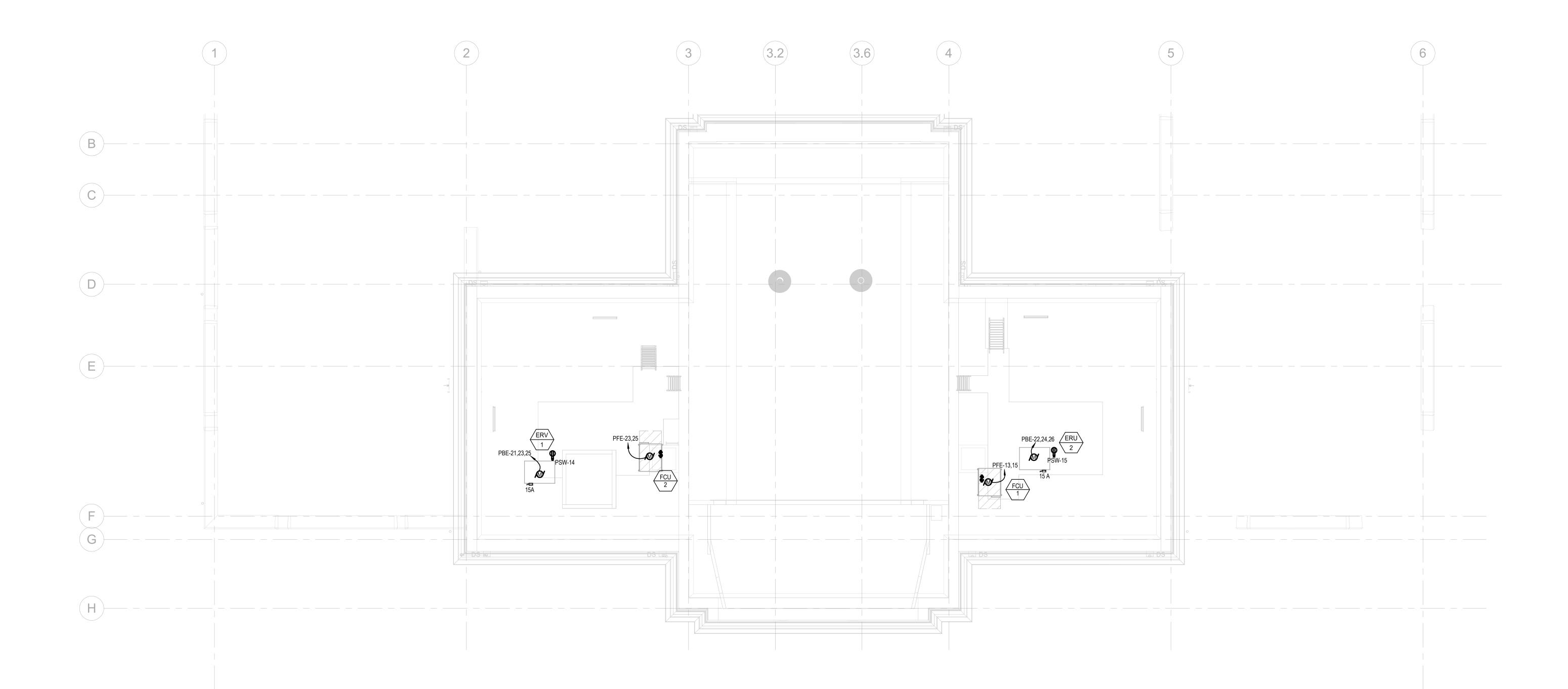
1 ELECTRICAL PROPOSED POWER - REC CENTER SECOND FLOOR 202-R 2 1/8" = 1'-0"

GENERAL NOTES

- . ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- . PROVIDE ALLOWNACE FOR 24 V CONTROL XFMRS AND CIRCUITS.
- PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT SERVES

4. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.



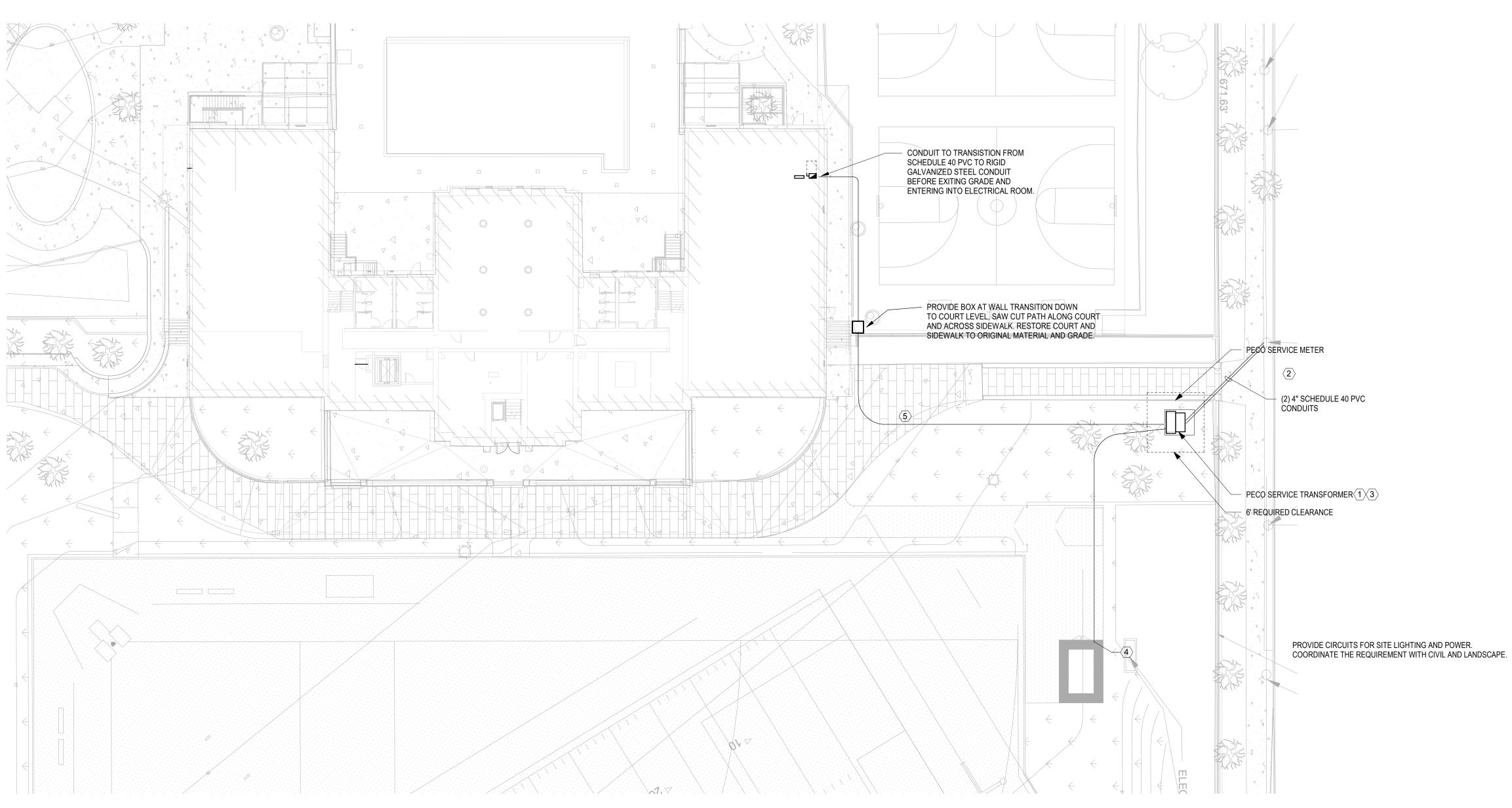


1 ELECTRICAL PROPOSED POWER - REC CENTER ATTIC

GENERAL NOTES

- 1. ALL RECEPTACLES LOCATED IN PUBLIC SPACES TO BE TAMPER RESISTANT IN ACCORDANCE WITH NEC SECTION 406.12. EXCEPT RECEPTACLES LOCATED 5'6"AFF.
- 2. PROVIDE ALLOWNACE FOR 24 V CONTROL XFMRS AND CIRCUITS.
- 3. PROVIDE POWER TO 208V, 1PH, 19W EXTERNAL CONDENSATE PUMP LOCATED AT EACH AC UNIT. POWER CONDENSATE PUMP FROM THE SAME CIRCUIT AS THE AC UNIT IT SERVES.
- 4. DATA/TELECOMMUNICATION/SECURITY RECEPTACLES AND CONDUIT TO BE PROVIDED BY CONTRACTOR. REFER TO TELECOMMUNICATIONS PLANS.





1 ELECTRICAL PROPOSED POWER - SITE PLAN 204-R 2 1" = 20'-0"

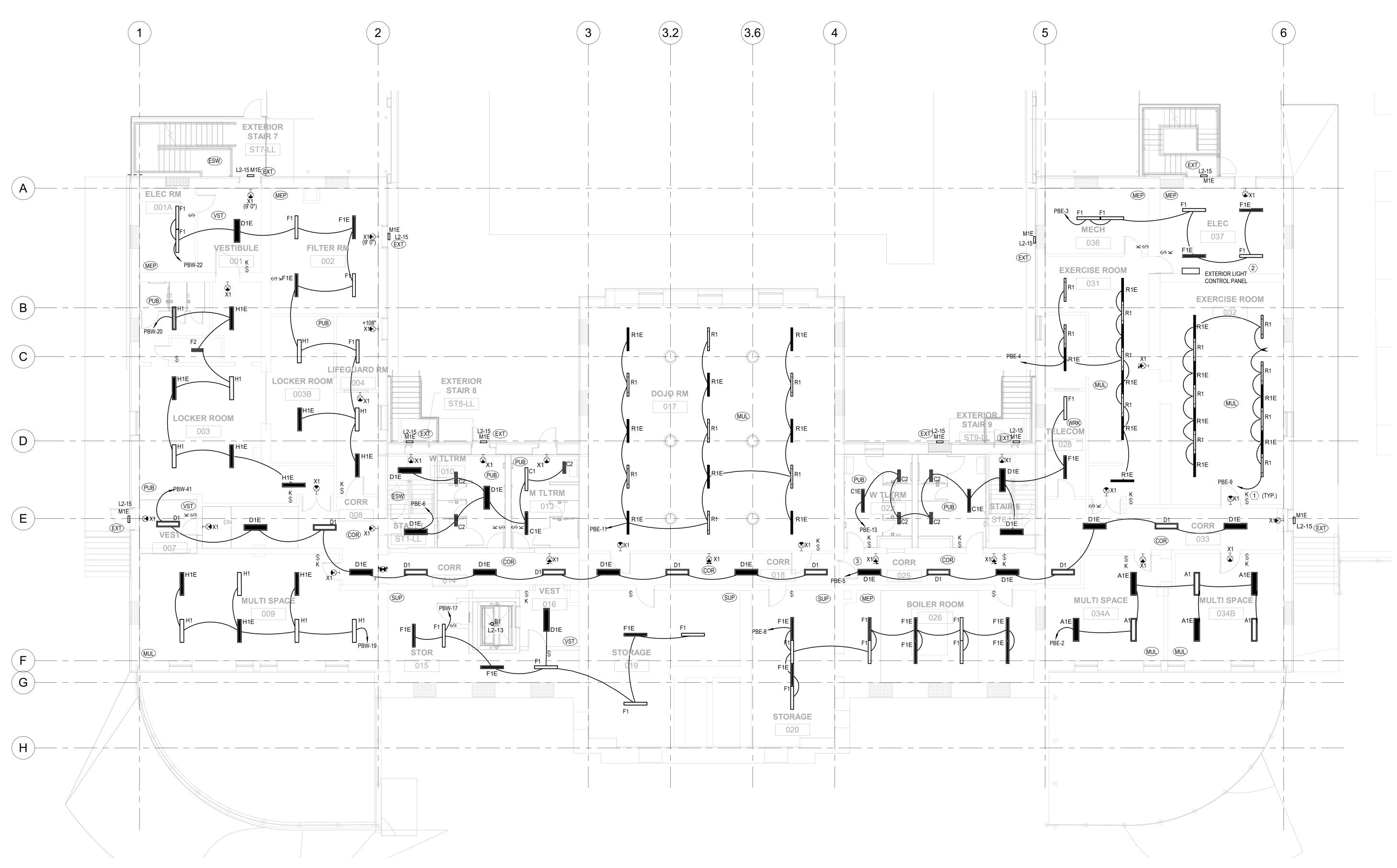
GENERAL NOTES

- 1. PROVIDE 24" MINIMUM COVER FOR ALL UNDERGROUND CONDUIT. PROVIDE WARNING TAPE 12" ABOVE ALL CONDUITS.
- ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL.
- FOR SITE LIGTHING AND POWER SEE CIVIL/SITE DRAWINGS

NEW WORK NOTES

- 1 PROVIDE CONCRETE PAD PER PECO BLUE BOOK FOR SERVICE TRANSFORMER PROVIDED BY PECO. SEE DETAIL 2 ON SHEET E600-R.2.
- PROVIDE CABLE IN 4" SCHEDULE 40 PVC CONDUITS FROM PRIMARY SIDE TERMINATIONS IN THE PECO PROVIDED TRANSFORMER TO THE PROPERTY LINE PER PECO SPECIFICATIONS. PECO WILL INTERCEPT CABLE AND CONDUITS FROM PROPERTY LINE AND MAKE ALL TERMINATIONS AT THE POLE.
- 3 PROVIDE GROUND RING AND GROUND RODS AT TRANSFORMER PER PECO SPECIFICATIONS.
- 4 PROVIDE 2.5" SCHEDULE 40 PVC UNDEGROUND CONDUIT TO SHED. PROVIDE 225A PANEL WITH 200A MCB IN SHED. PROVIDE GROUND TIE TO THE FOUNDATION REBAR AND PROVIDE A MINIMUM OF ONE 8 FOOT LONG GROUND ROD. BOND NEUTRAL AND GROUND AT SERVICE DISCONNECT PER NEC 250.
- 5 COORDINATE INSTALLATION OF CONDUIT IN SIDE WALK AREA WITH NEW SIDEWALK WORK. SEE CIVIL/SITE DRAWINGS.





1 ELECTRICAL PROPOSED LIGHTING - REC CENTER LOWER LEVEL B300-R 2 1/8" = 1'-0"

GENERAL NOTES

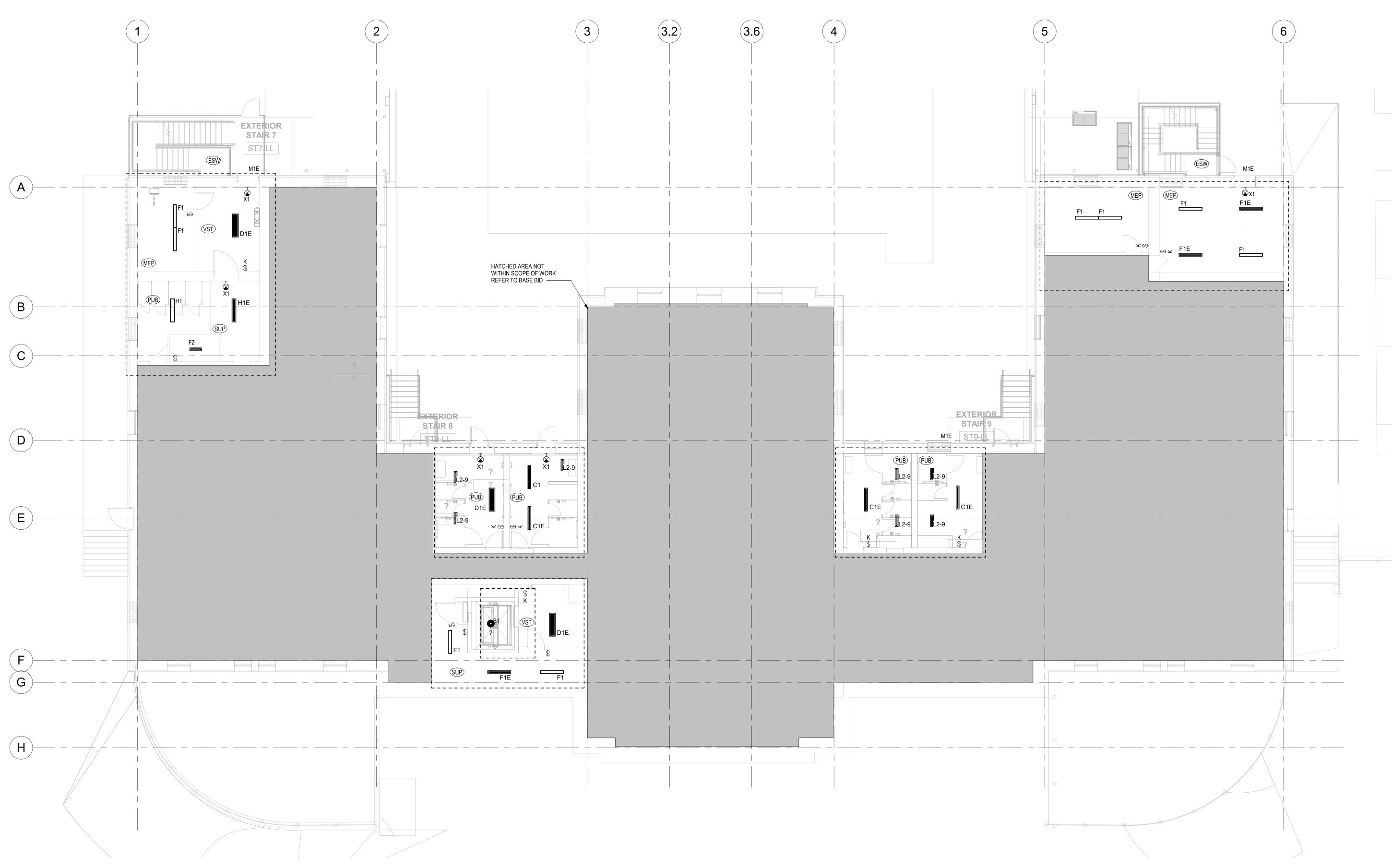
ON ASSOCIATED FLOOR.

- I. LIGHTING CONTROLS SHALL BE OF AUTOMATIC TYPE FOR NON-UTILITY SPACES.
- 2. LIGHTING CONTROLS FOR UTILITY SPACES SHALL BE NON-AUTOMATIC (TOGGLE-TYPE)
- EMERGENCY LIGHTING SHALL BE VIA EMERGENCY BATTERY UNIT INTEGRAL TO SELECTED LIGHT FIXTURE(S), OR BY CONCEALED MINI EMERGENCY BATTERY PACK.
 EXIT SIGNS AND BATTERY UNITS SHALL BE CIRCUITED AHEAD OF THE LIGHTING
- SWITCHES.
- MOUNT EXIT SIGNS 12" ABOVE DOORS IN THE PATH OF EGRESS.
 EMERGENCY EXIT SIGNS TO BE POWERED FROM LOCAL LIGHTING OR POWER PANEL

NEW WORK NOTES

- FOR ALL SK, CONTRACTOR TO PROVIDE IN ADDITION TO CENTRAL LIGHTING CONTROL, A SEPARATE COST LINE ITEM TO PROVIDE A LOCAL AREA KEY CONTROLLED SWITCH.
- PROVIDE EXTERIOR LIGHT CONTROL PANEL WITH TIMER. POWER FROM EXISTING SITE FIELD LIGHTING DISCONNECT. COORDINATE WITH SITE CIVIL DRAWINGS.



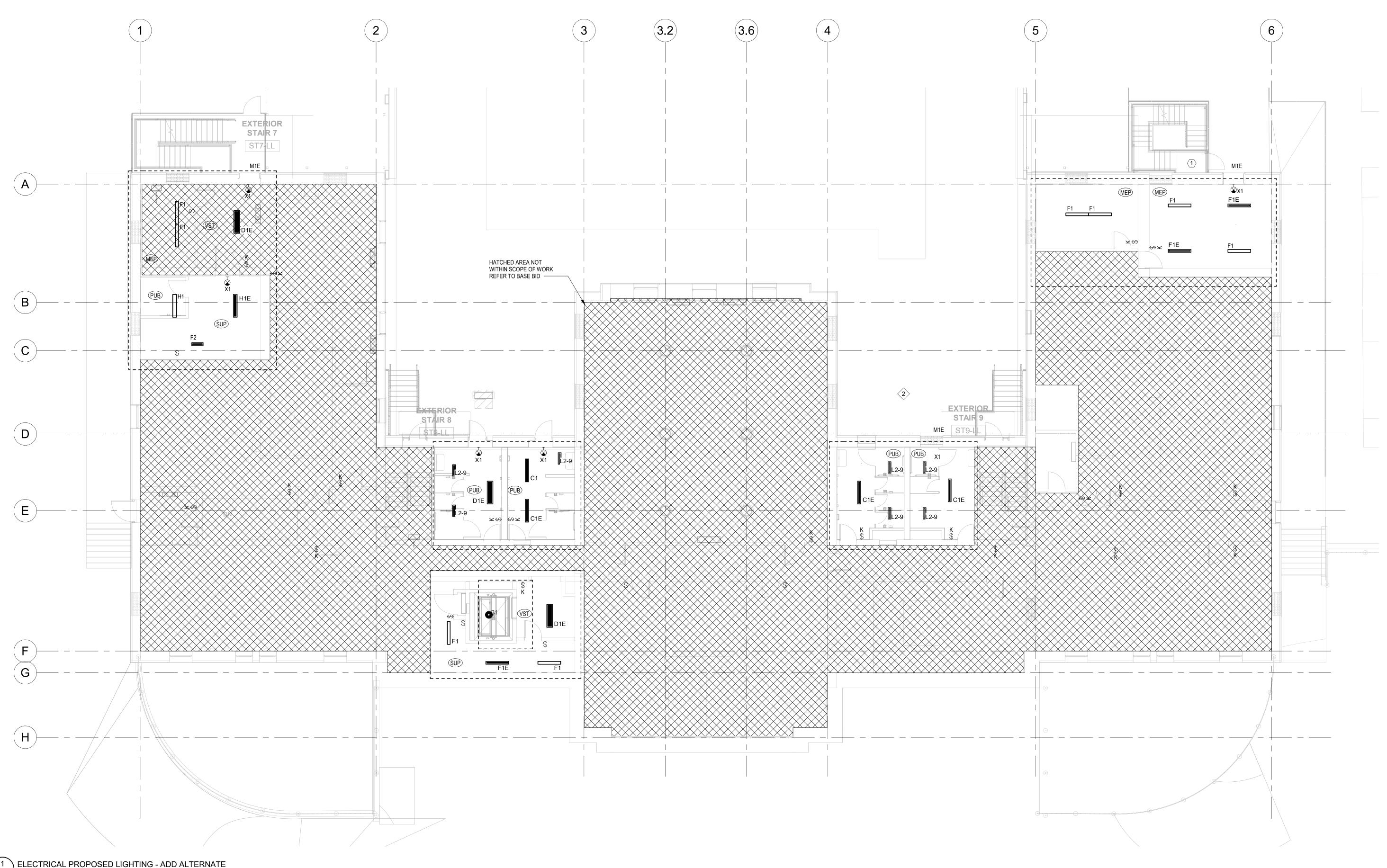


1 ELECTRICAL PROPOSED LIGHTING - REC CENTER LOWER LEVEL - ALTERNATE R-3 E300B-R/2 1/8" = 1'-0"

GENERAL NOTES

- 1. LIGHTING CONTROLS SHALL BE OF AUTOMATIC TYPE FOR NON-UTILITY SPACES.
- 2. LIGHTING CONTROLS FOR UTILITY SPACES SHALL BE NON-AUTOMATIC (TOGGLE-TYPE)
- EMERGENCY LIGHTING SHALL BE VIA EMERGENCY BATTERY UNIT INTEGRAL TO SELECTED LIGHT FIXTURE(S), OR BY CONCEALED MINI EMERGENCY BATTERY PACK.
 EXIT SIGNS AND BATTERY UNITS SHALL BE CIRCUITED AHEAD OF THE LIGHTING
- SWITCHES.
- 5. MOUNT EXIT SIGNS 12" ABOVE DOORS IN THE PATH OF EGRESS.
- EMERGENCY EXIT SIGNS TO BE POWERED FROM LOCAL LIGHTING OR POWER PANEL ON ASSOCIATED FLOOR.
 FOR ALTERNATIVE BID. CONTRACTOR TO PROVIDE ALL NEW ELECTRICAL BANELS AS
- FOR ALTERNATIVE BID, CONTRACTOR TO PROVIDE ALL NEW ELECTRICAL PANELS AS PER THE BASE BID AND UTILIZE NEW PANELS FOR EXISTING EQUIPMENT AND LIGHTING LOADS NOT REPLACED IN ALTERNATE BID.





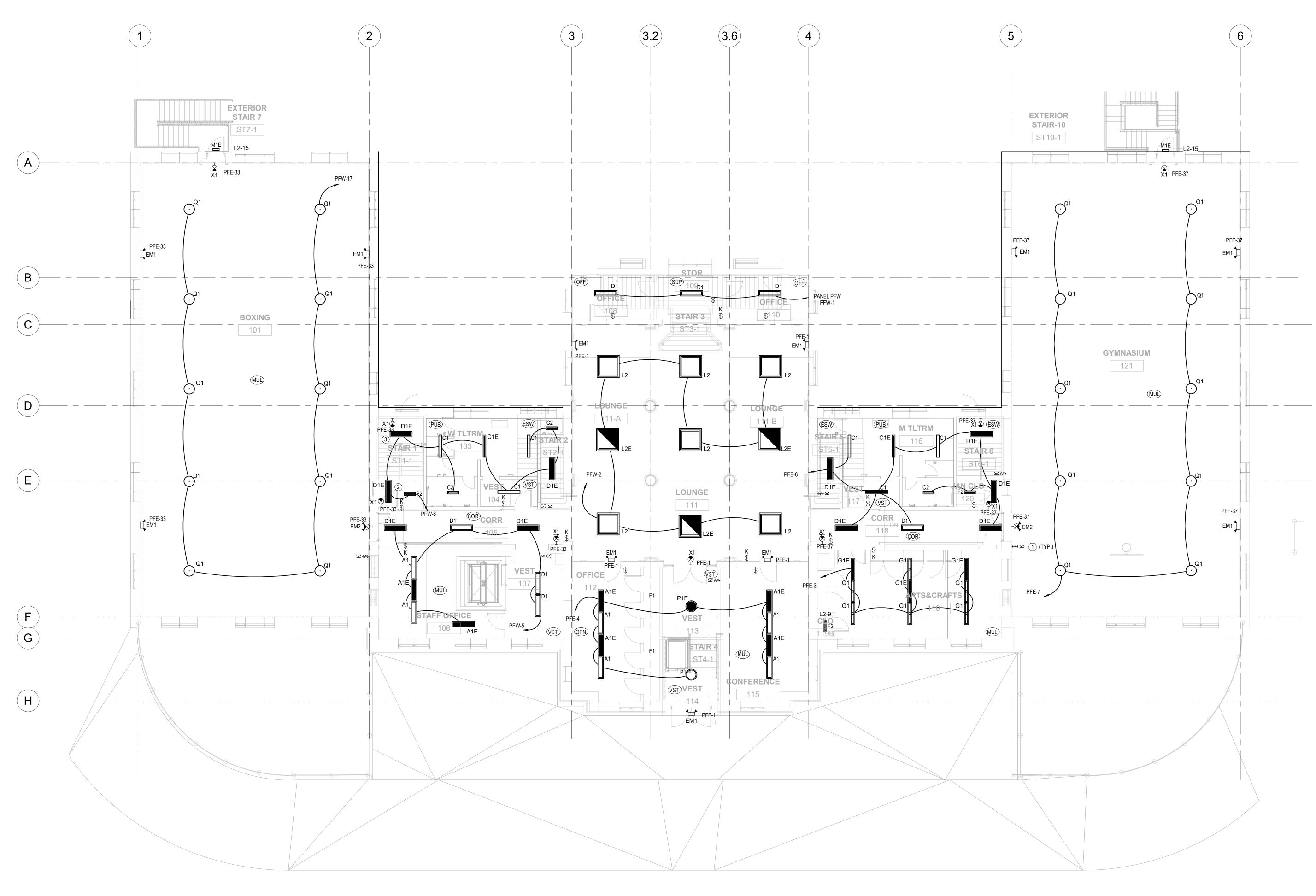
1 ELECTRICAL PROPOSED LIGHTING - ADD ALTERNATE E000C-R/2 1/8" = 1'-0"

GENERAL NOTES

- 1. LIGHTING CONTROLS SHALL BE OF AUTOMATIC TYPE FOR NON-UTILITY SPACES.
- LIGHTING CONTROLS FOR UTILITY SPACES SHALL BE NON-AUTOMATIC (TOGGLE-TYPE
 EMERGENCY LIGHTING SHALL BE VIA EMERGENCY BATTERY UNIT INTEGRAL TO
- SELECTED LIGHT FIXTURE(S), OR BY CONCEALED MINI EMERGENCY BATTERY PACK.
- . EXIT SIGNS AND BATTERY UNITS SHALL BE CIRCUITED AHEAD OF THE LIGHTING SWITCHES.
- 5. MOUNT EXIT SIGNS 12" ABOVE DOORS IN THE PATH OF EGRESS.
- 6. EMERGENCY EXIT SIGNS TO BE POWERED FROM LOCAL LIGHTING OR POWER PANEL ON ASSOCIATED FLOOR.

7. FOR ALTERNATIVE BID, CONTRACTOR TO PROVIDE ALL NEW ELECTRICAL PANELS AS PER THE BASE BID AND UTILIZE NEW PANELS FOR EXISTING EQUIPMENT AND LIGHTING LOADS NOT REPLACED IN ALTERNATE BID.





1 ELECTRICAL PROPOSED LIGHTING - REC CENTER FIRST FLOOR E301-R/2 1/8" = 1'-0"

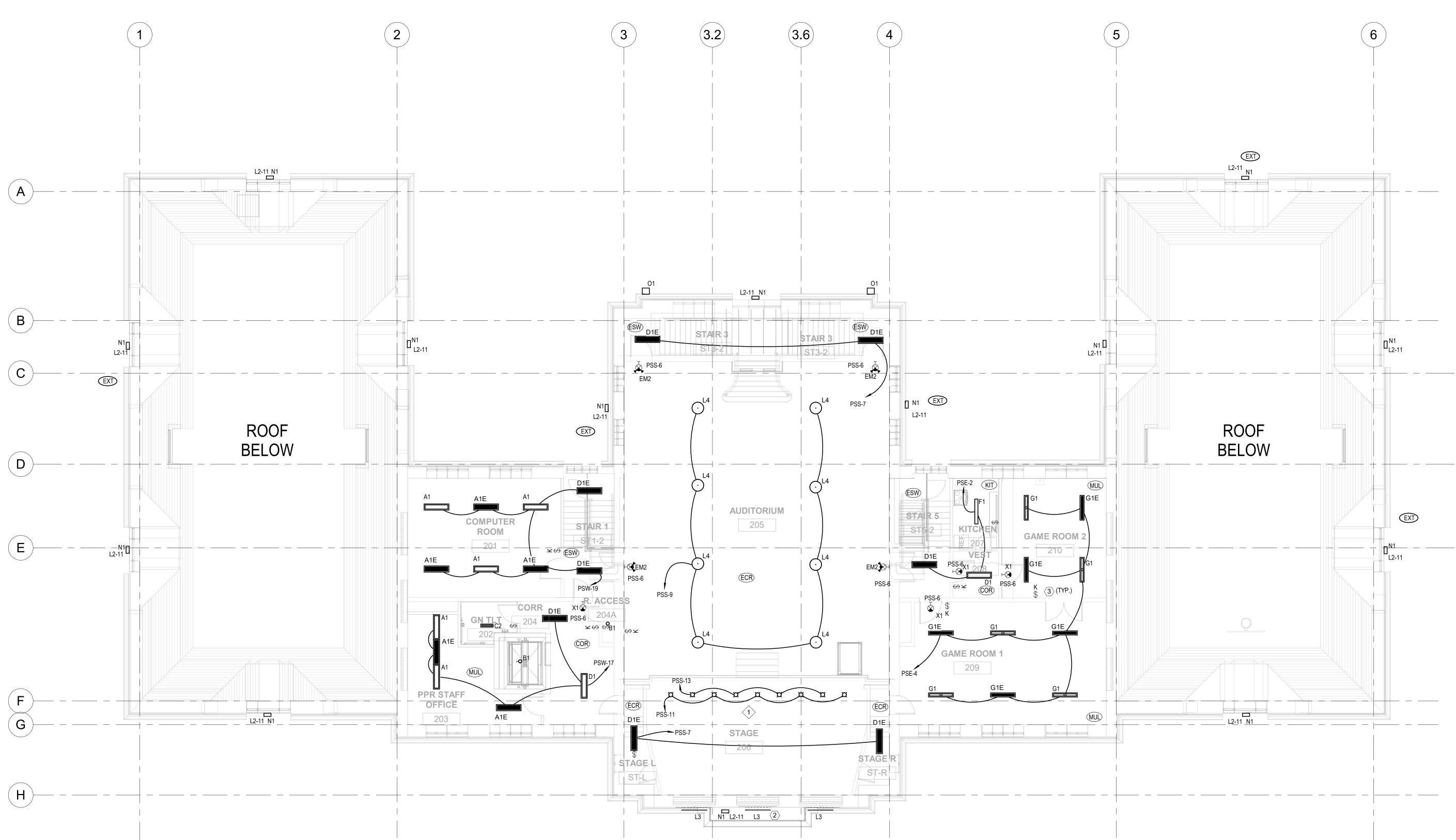
GENERAL NOTES

- 1. LIGHTING CONTROLS SHALL BE OF AUTOMATIC TYPE FOR NON-UTILITY SPACES.
- 2. LIGHTING CONTROLS FOR UTILITY SPACES SHALL BE NON-AUTOMATIC (TOGGLE-TYPE)
- 3. EMERGENCY LIGHTING SHALL BE VIA EMERGENCY BATTERY UNIT INTEGRAL TO SELECTED LIGHT FIXTURE(S), OR BY CONCEALED MINI EMERGENCY BATTERY PACKS.
- 4. EXIT SIGNS AND BATTERY UNITS SHALL BE CIRCUITED AHEAD OF THE LIGHTING SWITCHES.
- 5. MOUNT EXIT SIGNS 12" ABOVE DOORS IN THE PATH OF EGRESS.
- 6. WALL MOUNTED EXIT SIGNS NOT ABOVE DOORS TO BE MOUNTED 90" ABOVE FINISHED FLOOR.
- 7. EMERGENCY LIGHTS TO BE MOUNTED 9' ABOVE FINISHED FLOOR.

NEW WORK NOTES

FOR ALL SK, CONTRACTOR TO PROVIDE IN ADDITION TO CENTRAL LIGHTING CONTROL, A SEPARATE COST LINE ITEM TO PROVIDE A LOCAL AREA KEY CONTROLLED SWITCH.





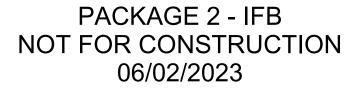
1 ELECTRICAL PROPOSED LIGHTING - REC CENTER SECOND FLOOR 302-R2 1/8" = 1'-0"

GENERAL NOTES

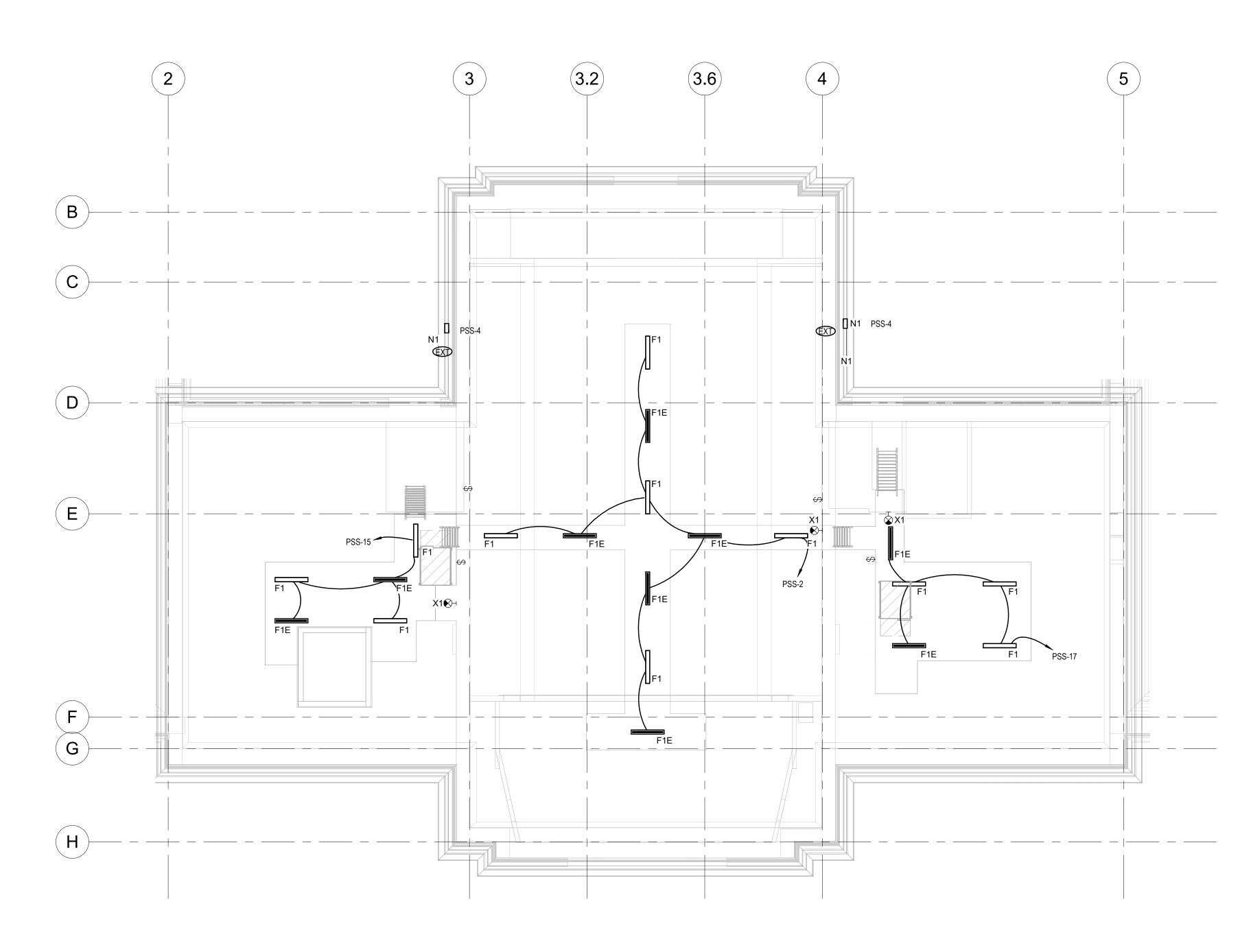
- LIGHTING CONTROLS SHALL BE OF AUTOMATIC TYPE FOR NON-UTILITY SPACES.
- LIGHTING CONTROLS FOR UTILITY SPACES SHALL BE NON-AUTOMATIC (TOGGLE-TYPE) EMERGENCY LIGHTING SHALL BE VIA EMERGENCY BATTERY UNIT INTEGRAL TO
- SELECTED LIGHT FIXTURE(S), OR BY CONCEALED MINI EMERGENCY BATTERY PACKS.
- EXIT SIGNS AND BATTERY UNITS SHALL BE CIRCUITED AHEAD OF THE LIGHTING SWITCHES.
- MOUNT EXIT SIGNS 12" ABOVE DOORS IN THE PATH OF EGRESS.
- WALL MOUNTED EXIT SIGNS NOT ABOVE DOORS TO BE MOUNTED 90" ABOVE FINISHED FLOOR.
- EMERGENCY LIGHTS TO BE MOUNTED 9' ABOVE FINISHED FLOOR.

NEW WORK NOTES

- PROVIDE STAGE REPLACEMENT LIGHTING WITH MODERN LED LIGHTING IN KIND. VARI LITE VL800 EVENTPAR, RGBA FIXTURES AND CONTROLS ARE THE BASIS OF DESIGN.
- PROVIDE EXTERIOR FACADE LIGHTING AT BALCONY LEVEL.
- FOR ALL SK, CONTRACTOR TO PROVIDE IN ADDITION TO CENTRAL LIGHTING CONTROL, A SEPARATE COST LINE ITEM TO PROVIDE A LOCAL AREA KEY CONTROLLED SWITCH.





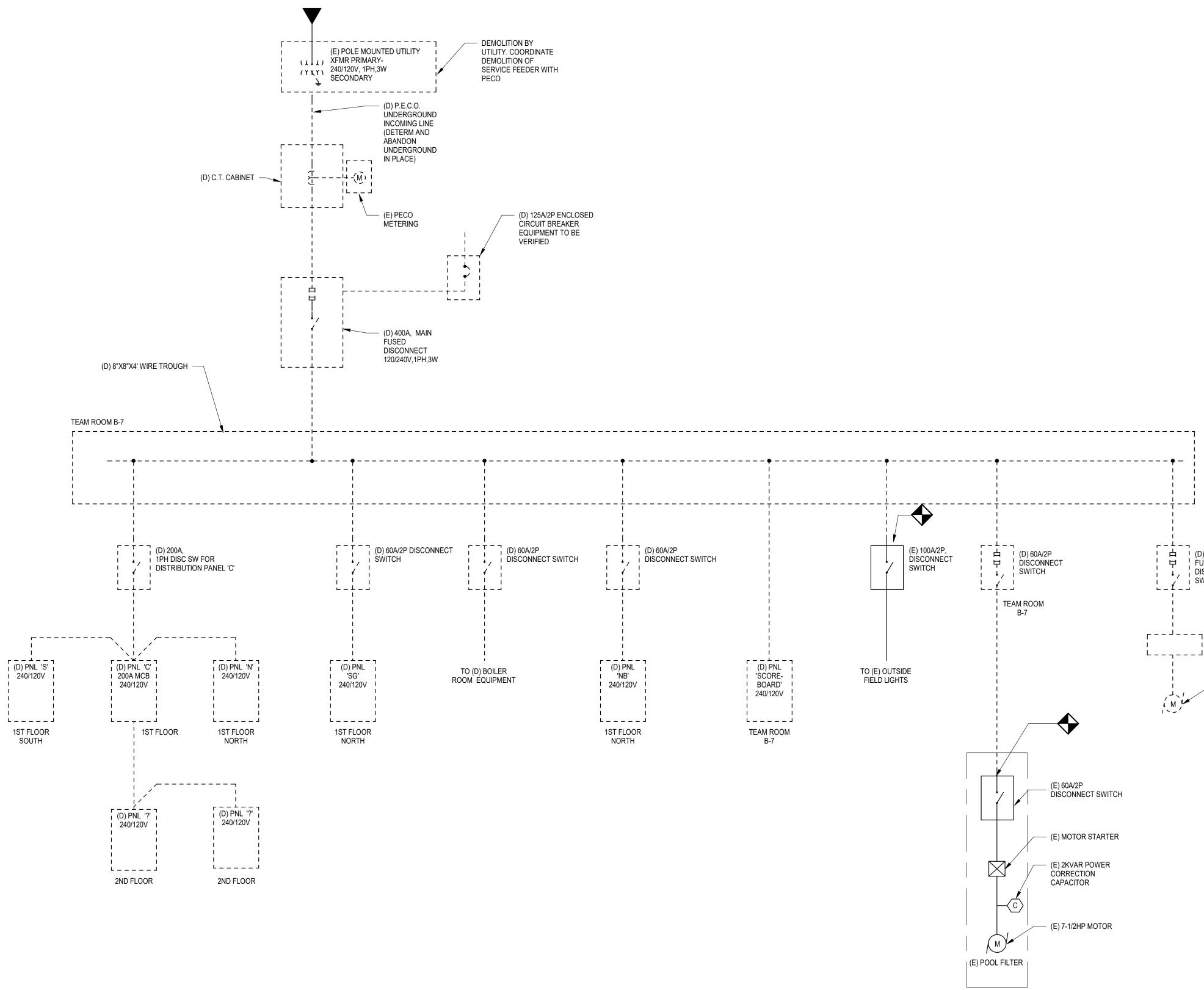


2 ELECTRICAL PROPOSED LIGHTING - ATTIC \$303-R 2 1/8" = 1'-0"

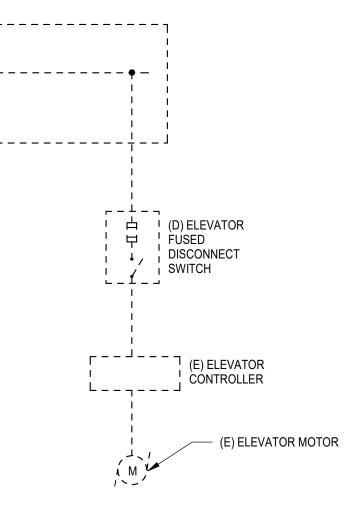
GENERAL NOTES

- 1. LIGHTING CONTROLS SHALL BE OF AUTOMATIC TYPE FOR NON-UTILITY SPACES.
- 2. LIGHTING CONTROLS FOR UTILITY SPACES SHALL BE NON-AUTOMATIC (TOGGLE-TYPE)
- 3. EMERGENCY LIGHTING SHALL BE VIA EMERGENCY BATTERY UNIT INTEGRAL TO SELECTED LIGHT FIXTURE(S), OR BY CONCEALED MINI EMERGENCY BATTERY PACKS.
- 4. EXIT SIGNS AND BATTERY UNITS SHALL BE CIRCUITED AHEAD OF THE LIGHTING SWITCHES.
- 5. MOUNT EXIT SIGNS 12" ABOVE DOORS IN THE PATH OF EGRESS.
- 6. WALL MOUNTED EXIT SIGNS NOT ABOVE DOORS TO BE MOUNTED 90" ABOVE FINISHED FLOOR.
- 7. EMERGENCY LIGHTS TO BE MOUNTED 9' ABOVE FINISHED FLOOR.



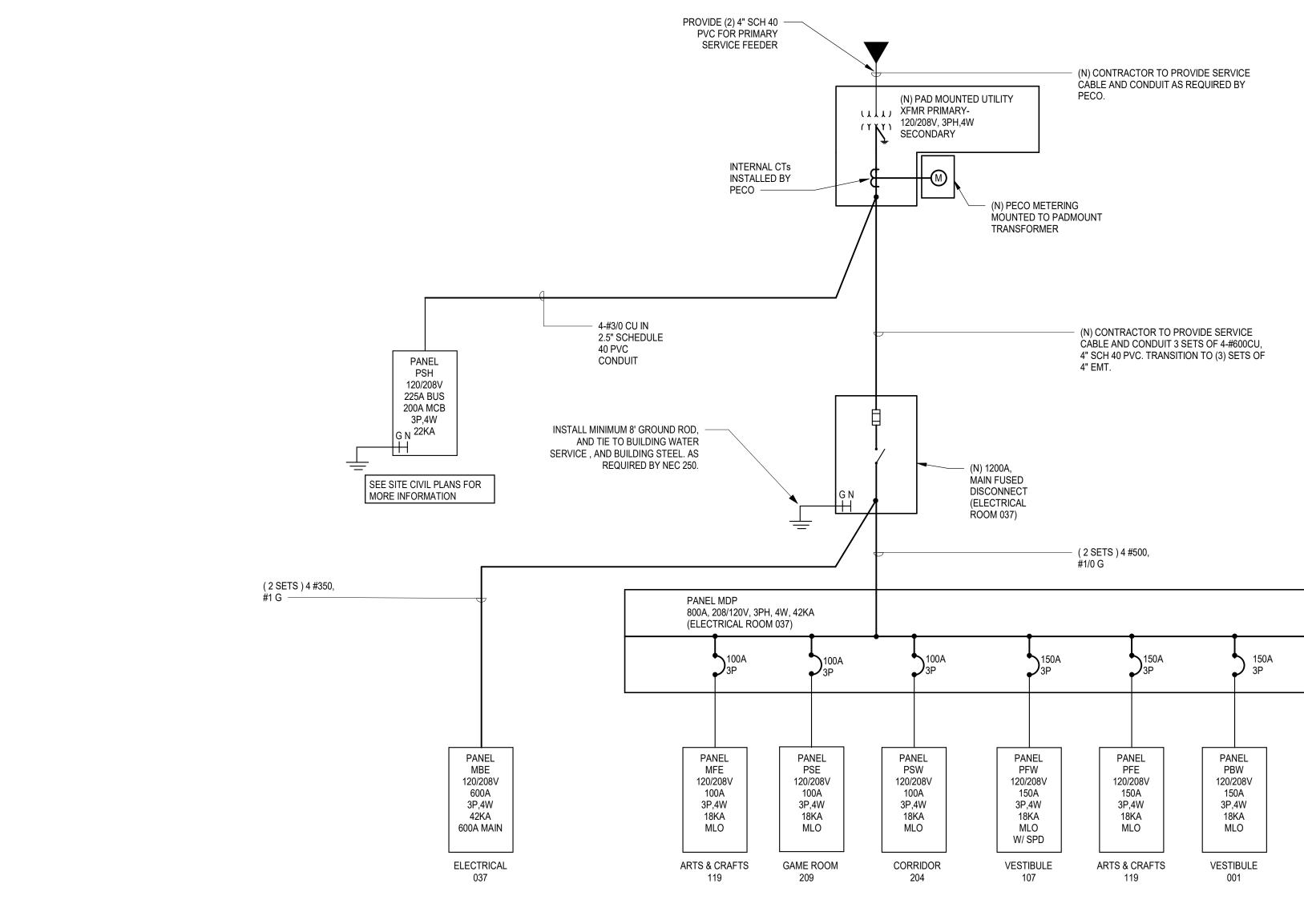


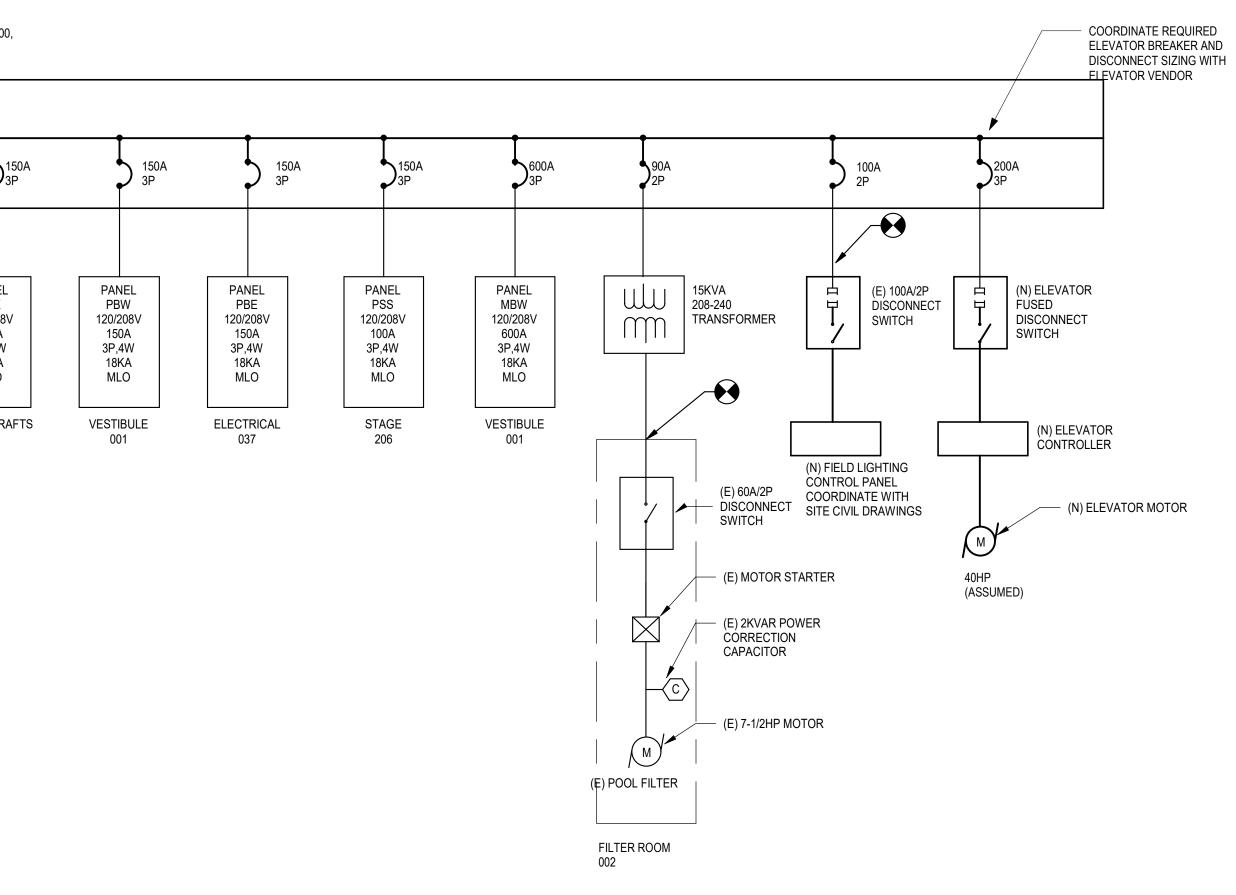
(1) ELECTRICAL SINGLE LINE DIAGRAM-R EXISTING 400-R 2 N.T.S.



FILTER ROOM B-36







1 ELECTRICAL SINGLE LINE DIAGRAM-R PROPOSED

	WIRING SCHEDULE		
C/B SIZE	PHASE/NEUTRAL WIRE SIZE	GROUND WIRE SIZE (1 PER SET)	CONDUIT S (1 PER SE
15, 20, 25	12	12	3/4"
30	10	10	3/4"
40	8	10	1"
45, 50	6	10	1"
60	4	10	1 1/2"
70	4	8	1 1/2"
80	3	8	1 1/2"
90	2	8	1 1/2"
100	1	8	2"
125	1	6	2"
150	1/0	6	2"
175	2/0	6	2"
200	3/0	6	2 1/2"
225	4/0	4	2 1/2"
250	250KCMIL	4	2 1/2"
300	350KCMIL	4	3"
350, 400	500KCMIL	2	3 1/2"
600	(2) 350KCMIL	1	(2) 3"

CIRCUIT BREAKER SIZE AS NOTED ON DRAWINGS U.O.N.
 BASED ON COPPER CONDUCTORS IN CONDUIT.

2 WIRE SCHEDULE 401-R 2 12" = 1'-0"



	KIN	IGSESSING RECR	EATION CENTER - LIGHT F	IXTURE	SCHEDU	JLE			
LABEL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LUMENS	COLOR TEMP	VOLTAGE	WATTAGE	MOUNTING	COMMENTS
A1	ARCHITECTURAL EDGE LIT 1'X4' WITH EXTRUDED ALUMINUM HOUSING, CENTER RAIL AND END CAPS AND FROSTED ACRYLIC LENS.	COLUMBIA LIGHTING	VSY14-35-MWHE-U-KIT-VSY14 SM	3795	3500К	120	29	SURFACE	PROVIDE WITH SURFACE MOUNT KIT
A1E	SAME AS TYPE 'A1' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	COLUMBIA LIGHTING	VSY14-35-XXXX-U-ELL14-KIT-VSY14 SM	3795	3500K	120	29	SURFACE	PROVIDE WITH SURFACE MOUNT KIT
B1	VAPORTITE LED WALL MOUNT FROSTED GLASS GLOBE WITH DIECAST ALUMINUM HOUSING AND GUARD	HUBBELL LIGHTING	VWGL-2	2722	4000K	120	20	SURFACE	
C1	4'-0" LED LINEAR WITH WHITE BAKED ENAMEL STEEL HOUSING AND	HUBBELL LIGHTING	MPS-4-35-HL-F-W-E-U-*MPSCRK-C	5800	3500К	120	41.5	SURFACE	PROVIDE ACCESSORIES FOR
C1E	SAME AS TYPE 'C1' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	HUBBELL LIGHTING	MPS-4-35-HL-F-W-E-U-ELL14-*MPSCRK-C	5800	3500К	120	41.5	SURFACE	PROVIDE ACCESSORIES FOR
C2	LED LINEAR WITH WHITE BAKED ENAMEL STEEL HOUSING AND	HUBBELL LIGHTING	MPS-2-35-HL-F-W-E-U-*MPSCRK-C	3400	3500К	120	31.5	SURFACE	PROVIDE ACCESSORIES FOR
C2E	SAME AS TYPE 'C2' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	HUBBELL LIGHTING	MPS-2-35-HL-F-W-E-U-ELL14-*MPSCRKC-C	3400	3500К	120	31.5	SURFACE	
D1	LED LINEAR WITH EXTRUDED ALUMINUM MATTE WHITE HOUSING AND DIE CAST ALUMINUM ENDCAPS AND SOFT DIFFUSE LENS.	HUBBELL LIGHTING	6L-S-D-04-04-SOF-C1-40K-D125-1C-UNV	1600	4000K	120	13.6	SURFACE	
D1E	LED LINEAR WITH EXTRUDED ALUMINUM MATTE WHITE HOUSING AND DIE CAST ALUMINUM ENDCAPS AND SOFT DIFFUSE LENS.	HUBBELL LIGHTING	6L-S-D-04-04-SOF-C1-40K-D125-1C-UNV-EF	1600	4000K	120	13.6	SURFACE	
EM1	LED EMERGENCY LIGHT WITH DUAL HEADS	DUAL LITE	EZ-2L	314	N/A	120	1.1	WALL SURFACE	PROVIDE WITH GUARD OPTION IN GYM AREAS
EM2	COMBINATION EXIT SIGN AND EMERGENCY LIGHT WITH DUAL LED HEADS	DUAL LITE	EVCHL-U-R-W-12-06L	314	N/A	120	6.5	WALL SURFACE	PROVIDE WITH WIRE GUARD OPTION IN GYM AREAS
F1	LED LINEAR LENSED STRIP LIGHT WITH HEAVY DIE-FORMED STEEL CHANNEL AND CURVED ACRYLIC FORMED DIFFUSER. CHAIN HUNG MOUNTING.	COLUMBIA LIGHTING	LCL-4-40-HL-E-U-CSHC	6494	4000K	120	42	SURFACE	PROVIDE ACCESSORIES FOR CONTINUOUS ROW MOUNTING
F1E	SAME AS TYPE 'F1' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	COLUMBIA LIGHTING	LCL-4-40-HL-E-U-CSHC-ELL14	6494	4000K	120	42	SURFACE	PROVIDE ACCESSORIES FOR CONTINUOUS ROW MOUNTING
F2	LED LINEAR LENSED STRIP LIGHT WITH HEAVY DIE-FORMED STEEL CHANNEL AND CURVED ACRYLIC FORMED DIFFUSER. CHAIN HUNG MOUNTING.	COLUMBIA LIGHTING	LCL-2-40-LW-E-U-CSHC	2805	4000К	120	24	SURFACE	PROVIDE ACCESSORIES FOR CONTINUOUS ROW MOUNTING
F2E	SAME AS TYPE 'F1' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	COLUMBIA LIGHTING	LCL-2-40-LW-E-U-CSHC-ELL14	2805	4000K	120	24	SURFACE	PROVIDE ACCESSORIES FOR CONTINUOUS ROW MOUNTING
G1	LED LINEAR SURFACE MOUNT WITH CURVED RIBBED ACRYLIC DIFFUSER AND DIE-FORMED TEXTURED MATTE WHITE ALUMINUM HOUSING	WILLIAMS	ASM-4-L25-8-35-S-*J-A-48-DIM-UNV	2500	3500К	120	19.5	SURFACE	PROVIDE WITH ROW ALIGNER OPTION FOR END-TO END INSTALLATION- REFER TO DRAWINGS FOR LOCATION(S).
G1E	SAME AS TYPE 'G1' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	WILLIAMS	ASM-4-XXX-8-35-S-*J-A-48-EM/10WLP	2500	3500К	120	19.5	SURFACE	PROVIDE WITH ROW ALIGNER OPTION FOR END-TO END INSTALLATION- REFER TO DRAWINGS FOR LOCATION(S).
H1	4FT LED Narrow Wrap, 4000K, 0-10V Dimming	COLUMBIA LIGHTING	CNW4-3540	3507	4000K	120	30	SURFACE	MULTI SPACE ROOM
H1E	SAME AS TYPE 'H1' EXCEPT WITH INTEGRAL EMERGENCY BATTERY	COLUMBIA LIGHTING	CNW4-3540	3507	4000K	120	30	SURFACE	MULTI SPACE ROOM
K1	TBD	TBD	TBD	TBD	TBD	120	TBD	TBD	STAGE LIGHTS
L1	6" SQUARE SURFACE MOUNTED LIGHT, WHITE FINISH, 4K COLOR	NORA LIGHTING	NLOS-S62L-40-WW	1150	4000K	120	14	SURFACE	FIRST FLOOR
L2	48" SQUARE X 5" DEEP SURFACE MOUNTED FRAME LIGHT, 35K COLOR	SPI LIGHTING	AIC11896-L99W-U-3500K-H05-FB00	10300	3500К	120	99	SURFACE	FIRST FLOOR
L2E	48" SQUARE X 5" DEEP SURFACE MOUNTED FRAME LIGHT, 35K COLOR WITH EMERGENCY BATTERY OPTION	SPI LIGHTING	AIC11896-L99W-U-3500K-H05-FB00	10300	3500K	120	99	SURFACE	FIRST FLOOR
L3	1.5" DIAMETER X 8' LONG SURFACE MOUNTED WALL WASHER, ANODIZED FINISH	SPI LIGHTING	48" SQUARE X 5" DEEP SURFACE MOUNTED FRAME LIGHT, 35K COLOR	5700	4000K	120	56	SURFACE	SECOND FLOOR
L4	48" DIAMETER X 12" HIGH OPAL ACRYLIC DRUM PENDANT, METAL FINISHES TBD	OCL LIGHTING	L01-P1EC-48-MW-X-MOD-35K-UNV-DM1	16500	3500К	120	140	PENDANT	SECOND FLOOR MODIFIED FOR 16,500 LUMENS
M1E	LED HORIZONTAL WALL PACK WITH DIE CAST ALUMINUM ENCLOSURE AND FULL CUTOFF TEMPERED PRISMATIC GLASS LENS	WILLIAMS	VWM-H-L20-740-T3-DBZ-SDGL-PC-UNV-TPTX-25-TOOL	2834	4000K	120	27	SURFACE	MOUNTED OVER ENTRY/EXIT DOORS. MATCH EXISTING FIXTURE MOUNTING HEIGHT. PROVIDE MOUNTING
N1	LED VERTICAL WALL PACK WITH DIE CAST ALUMINUM ENCLOSURE AND FORWARD THROW CLEAR TEMPERED GLASS LENS	WILLIAMS	VWP-L30-7-40-TFT-DBZ-CGL-120-OCCWS FSP-311-L	2844	4000K	120	36	SURFACE	EXTERIOR WALL PACKS- MATCH EXISTING FIXTURE MOUNTING HEIGHT. PROVIDE MOUNTING ACCESSORIES TO MATCH EXISTING INSTALLATION.
0	MEDIUM LED FLOOD LIGHT WITH DIE CAST ALUMINIUM HOUSING AND ACRYLIC LENS WITH EXTRA WIDE DISTRIBUTION	LSI	TMFL-LED-07L-W-UNV-40-BZA-PC120	7000	4000K	120	TBD	SURFACE	ROOFTOP FLOOD LIGHTS
P1	2'-0" ROUND SURFACE MOUNT LED WITH ALUMINUM HOUSING AND FROSTED ACRYLILC LENS	WILLIAMS	RNDS-2-L25-80-40-FXA-120	2500	4000K	120	24.3	SURFACE	
P1E	2'-0" ROUND SURFACE MOUNT LED WITH ALUMINUM HOUSING AND FROSTED ACRYLILC LENS	WILLIAMS	RNDS-2-L25-80-40-FXA-120-EM/10WRM	2500	4000K	120	24.3	SURFACE	
Q1	LED HIGH BAY WITH ALUMINUM HOUSING AND CLEAR ACYLIC DOME	COLUMBIA LIGHTING	SAV-MM-40-8-SB22-CLR-U-XXX-*WG23A	20,598	4000K	120	177	PENDANT	
R1	2"X4' LINEAR LED WITH DOWNLIGHT SPREAD OPTICS	FINELITE	HP-2-SM-D-4FT-H-835-DSO-96LG-120-SC-FC-10%-C4-FE-SW	2500	3500К	120	28.3	SURFACE	
R1E	2"X4' LINEAR LED WITH DOWNLIGHT SPREAD OPTICS	FINELITE	HP-2-SM-D-4FT-H-835-DSO-96LG-120-SC-FC-10%-C4-FE-SW-L GD10W	2500	3500K	120	28.3	SURFACE	
X1	SINGLE FACE EXIT SIGN	DUAL LITE	SE-S-R-W-*WGL *WIREGUARD OPTION FOR GYM AREA ONLY	N/A	N/A	120	2.6	WALL SURFACE	

		LIG	SHTI	NG CC	ONT	ROL SEQUENCE OF OPERATIONS
DEVICES:						
TO PROVIE ZONES AS - <u>PIR</u> = - <u>US</u> = - <u>DT</u> =	DE COVER INDICATE PASSIVE ULTRASC DUAL TE	age ove d on pla infared nic/micf chnolog	ER A MINIM ANS. SENS D ROPHONIC	UM OF 90% OF 9 ORS SHALL BE 0 'E INFARED AND	SPACE SÉR CEILING MC	JSING TECHNOLOGY INDICATED TO SERVE SPACE. PROVIDE TYPES AND QUANTITIES OF SENSORS AS NEEDED VED. PROVIDE TYPES AND QUANTITIES OF POWER PACKS/LOAD CONTROLLERS AS NEEED TO CONTROL NUMBER OF PUNTED UNLESS SPECIFICALLY INDICATED AS WALL MOUNTED SENSORS ON PLANS.
PHOTCELL - <u>Y</u> = S	s may be Pace sh	INTEGRA	AL TO OCC UDE PHOT	UPANCY SENSC	PR(S).	NABLE DAYLIGHT HARVESTING. WHERE LOCATION(S) OF OCCUPANCY SENSOR(S) ARE APPROPRIATE, LIGHT HARVESTING OF ZONE(S) AS INDICATED ON PLANS.
CONTROL - <u>Y</u> = S	FROM SY PACE SH	STEM TIM ALL BE CO	IE CLOCK, ONNECTEE		Rol and M Ead-End	OLTAGE CABLING AS REQUIRED TO CONNECT SPACE TO SYSTEM HEAD-END, ALLOWING FOR SCHEDULED ONITORING, AND REMOTE PROGRAMMING.
CODE REQ RELAYS AS - <u>Y</u> = U	UIRED O\ S REQUIR IL924 REL	/ERRIDE (ED TO AC AY REQU	Control Comodat IRED	OF CONTROLLE E ZONES/CIRCU	D EGRESS IITS SERVE	WITH SPACE LIGHTING PER SEQUENCE OF OPERATIONS. PROVIDE UL924 RELAY PER SPECIFICATIONS FOR LIGHTING. WHERE MULTIPLE LIGHTING BRANCH CIRCUITS SERVE THE SAME CONTROL ZONE, PROVIDE QUANTITY OF D. FING OR EGRESS LIGHTING IS 24 HOUR)
			I	DEVICES		
SPACE TYPE CORRIDOR	TAG COR	OCC DT	PHOTO N	NETWORK Y	UL924 Y	SEQUENCE OF OPERATIONS SCHEDULE ON HOURS: LIGHTS ON FROM 6 AM TO 8 PM
						SCHEDULE OFF HOURS: LIGHTS OFF FROM 8PM TO 6AM AUTOMATIC ON (DURING SCHEDULE OFF HOURS): UPON OCCUPANCY DETECTION, LIGHTS ON AUTOMATIC OFF (DURING SCHEDULE OFF HOURS): 10 MINUTE DELAY, LIGHTS OFF
DECORATIVE EXTERIOR		N	N	Y	N	SCHEDULE ON: LIGHTS TO 100% AT 15 MINUTES PRIOR TO DUSK LIGHTING SETBACK: LIGHTS TO OFF AT 9:00 PM, RETURN TO 100% AT 5:00 AM SCHEDULE OFF: LIGHTS OFF AT 15 MINUTES AFTER DAWN
EGRESS CORRIDOR	ECR	Y	N	N	Y	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHT AT MAXIMUM LIGHT LEVEL AUTOMATIC OFF: ALL LIGHTS DIM TO MINIMUM LIGHT LEVEL 15 MINUTES AFTER OCCUPANTS EXIT WALL DEVICE: OCCUPANT TO SET DESIRED LIGHT LEVELS FOR LIGHTS. MANUAL CONTROL CANNOT FULLY SHUT OF LIGHTS. MINIMUM OUTPUT IS SET TO 10%.
EGRESS STAIRWELL	ESW	Y	N	N	Y	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHT AT MAXIMUM LIGHT LEVEL AUTOMATIC OFF: ALL LIGHTS DIM TO MINIMUM LIGHT LEVEL 15 MINUTES AFTER OCCUPANTS EXIT
EXTERIOR	EXT	N	N	Y	Y	SCHEDULE ON: LIGHTS TO 100% AT 15 MINUTES PRIOR TO DUSK LIGHTING SETBACK: LIGHTS TO 50% AT 9:00 PM, RETURN TO 100% AT 5:00 AM SCHEDULE OFF: LIGHTS OFF AT 15 MINUTES AFTER DAWN
KITCHEN	KIT	DT	Y	Y	Y	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS TURN ON AUTOMATIC OFF: AFTER A 15 MINUTE DELAY, LIGHTS TURN OFF WALL DEVICE: ALLOW FOR ON/OFF CONTROL AND DIMMERS TO ADJUST LIGHTING AS NEEDED.
LOBBY/ATRIUM	LOB	DT	Y	Y	Y	SCHEDULE ON HOURS: LIGHTS ON FROM 6 AM TO 8 PM SCHEDULE OFF HOURS: LIGHTS OFF FROM 8PM TO 6AM AUTOMATIC ON (DURING SCHEDULE OFF HOURS): UPON OCCUPANCY DETECTION, LIGHTS ON AUTOMATIC OFF (DURING SCHEDULE OFF HOURS): 10 MINUTE DELAY, LIGHTS OFF
MECHANICAL/ ELECTRICAL	MEP	N	N	N	N	WALL DEVICE: ALLOW FOR ON/OFF CONTROL NO AUTOMATIC LIGHTING CONTROLS IN THIS SPACE
MULTIPURPOSE ROOM	MUL	DT	Y	Y	Y	WALL DEVICE: ALLOW FOR ON/OFF CONTROL AND DIMMING FROM MIN TO MAX AUTOMATIC OFF: 15 MINUTE DELAY, LIGHTS OFF DAYLIGHT HARVESTING: OVERHEAD LIGHTS DIM/BRIGHTEN BASED ON DAYLIGHT AVAILABILITY THERE ARE TWO PERIMETER DAYLIGHT ZONES
OFFICE (PRIVATE)	OFF	DT	N	N	N	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHT AT CURRENT DIMMING LEVEL WALL DEVICE: ALLOW FOR ON/OFF CONTROL AND DIMMING FROM MIN TO MAX AUTOMATIC OFF: 5 MINUTE DELAY, LIGHTS OFF
OPEN PLAN OFFICE	OPN	DT	N	N	Y	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS TO 50% WALL DEVICE: ALLOW FOR LOCAL ON/OFF AND DIMMING OVERRIDE AUTOMATIC OFF: 15 MINUTE DELAY (ALL ZONES), LIGHTS OFF OPEN OFFICE: PROIVDE OCCUPANCY SENSOR COVERAGE AND SYSTEM PROGRAMMING AS NECESSARY TO MEET THE REQUIREMENTS OF IECC 2018 PART C405.2.1.3, REFER TO PLANS FOR DESIRED ZONING
PRIVATE RESTROOM	PRT	PIR	N	N	N	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS ON WALL DEVICE: ALLOW FOR ON/OFF CONTROL AUTOMATIC OFF: 5 MINUTE DELAY, LIGHTS OFF
PUBLIC RESTROOM	PUB	DT	N	N	N	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS ON WALL DEVICE: ALLOW FOR ON/OFF CONTROL AUTOMATIC OFF: 15 MINUTE DELAY, LIGHTS OFF
SUPPORT / STORAGE	SUP	DT	N	N	N	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS ON WALL DEVICE: ALLOW FOR ON/OFF CONTROL AUTOMATIC OFF: 5 MINUTE DELAY, LIGHTS OFF
TUB / SHOWER	TUB	DT	N	N	N	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS ON WALL DEVICE: ALLOW FOR ON/OFF CONTROL AUTOMATIC OFF: 20 MINUTE DELAY, LIGHTS OFF
VESTIBULE	VST	DT	N	Y	Y	SCHEDULE ON HOURS: LIGHTS ON FROM 6AM TO 8PM SCHEDULE OFF HOURS: LIGHTS OFF FROM 8PM TO 6AM SCHEDULE DIM HOURS: LIGHTS TO 50% FROM 15 MINUTES AFTER DAWN TO 15 MINUTES BEFORE DUSK AUTOMATIC ON (DURING SCHEDULE OFF HOURS):UPON OCCUPANCY DETECTION, LIGHTS ON AUTOMATIC OFF (DURING SCHEDULE OFF HOURS): 10 MINUTE DELAY, LIGHTS OFF
WORK	WRK	DT	N	N	N	AUTOMATIC ON: UPON OCCUPANCY DETECTION, LIGHTS ON WALL DEVICE: ALLOW FOR ON/OFF CONTROL AUTOMATIC OFF: 10 MINUTE DELAY, LIGHTS OFF
	1			1	L	



LOCATION:			VOLTS:	120/208 Wye	;				BUS:		800 A		
SUPPLIED FROM:			PHASES:	3		GRO	UND:		MAIN:				
FEEDER SIZE:	Refer to Power Riser	Diagram	WIRES:	4		ISOL	ATED GR	OUND:	AIC:		42 kA		
MANUFACTURER/MODEL:			MOUNTING:			NEU	TRAL:		ARC F	FLASH:			
скт	DESCRIPTION			FRAME	TRIP	POLES	Load	DEMAND CURRENT	COMMENT	s			
1 Elevator				200 A	200 A	3	41 kVA	114 A	40 HP ELE	VATOR MO	TOR ASSUMED PEN	DING FINAL SEI	ECTION.
2													
3 PANEL 'P2'				100 A	100 A	3	7 kVA	18 A					
4 PANEL PFW 5 PANEL PFE				150 A 150 A	150 A 150 A	3	17 kVA 16 kVA	47 A 44 A					
6 PANEL PBW				150 A	150 A	3	21 kVA	59 A					
7 PANEL PBE				150 A	150 A	3	16 kVA	45 A					
8 PANEL MFE				100 A	100 A	3	2 kVA	6 A					
9 PANEL MBW				600 A	600 A	3	135 kVA	374 A	MECHANIC	CAL DEMAN	ND LOADS TO BE CO	NTROLLED	
10 (E) POOL FILTER				90 A	90 A	3	10 kVA	27 A					
11 PANEL PSS 12				150 A	150 A	3	8 kVA	21 A					
	CONNECTED LOAD	DEMAND FAC		IAND LOAD									
	CONNECTED LOAD 41.1 kVA	DEMAND FA 100%		MAND LOAD 41.1 kVA						TOTAL C	ONNECTED LOAD:	273 kVA	758 A
LOAD CLASSIFICATION Elevator LIGHTING	41.1 kVA 0.162 kVA	100% 100%		41.1 kVA 0.162 kVA							ONNECTED LOAD: EMAND LOAD:	273 kVA 272 kVA	758 A 754 A
Elevator LIGHTING Motor	41.1 kVA 0.162 kVA 26.01 kVA	100% 100% 109%	(2	41.1 kVA 0.162 kVA 28.41 kVA									
Elevator LIGHTING Motor Other	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA	100% 100% 109% 100%	2	41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA									
Elevator LIGHTING Motor Other POWER	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA	100% 100% 109% 100% 100%	2	41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA									
Elevator LIGHTING Motor Other POWER RECEPTACLE	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA 14.76 kVA	100% 100% 109% 100% 100% 84%	(1	41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA 2.38 kVA									
Elevator LIGHTING Motor Other POWER RECEPTACLE HVAC	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA 14.76 kVA 136.56 kVA	100% 100% 109% 100% 100% 84% 100%	(2 1 1	41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA 2.38 kVA 36.56 kVA									
Elevator LIGHTING Motor Other POWER RECEPTACLE	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA 14.76 kVA	100% 100% 109% 100% 100% 84%	(2 1 1	41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA 2.38 kVA									
Elevator LIGHTING Motor Other POWER RECEPTACLE HVAC Lighting - Interior	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA 14.76 kVA 136.56 kVA	100% 100% 109% 100% 100% 84% 100%	(2 1 1 1	41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA 2.38 kVA 36.56 kVA									
Elevator LIGHTING Motor Other POWER RECEPTACLE HVAC Lighting - Interior Receptacle - General	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA 14.76 kVA 136.56 kVA 11.975 kVA	100% 100% 109% 100% 100% 84% 100% 125%		41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA 2.38 kVA 36.56 kVA 4.969 kVA									
Elevator LIGHTING Motor Other POWER RECEPTACLE HVAC	41.1 kVA 0.162 kVA 26.01 kVA 8.21 kVA 9.6 kVA 14.76 kVA 136.56 kVA 11.975 kVA 19.8 kVA	100% 100% 109% 100% 100% 84% 100% 125% 75%		41.1 kVA 0.162 kVA 28.41 kVA 8.21 kVA 9.6 kVA 2.38 kVA 36.56 kVA 4.969 kVA 14.9 kVA									

cription U-7A U-7A CU-2 UH-5 AC-6 DNV-1 AC-3 UH-2 EF-4	Custom Wire SizE 3:#8, 1:#8, 1:#10 3:#6, 1:#6, 1:#10 1:#12, 1:#12, 1:#12 2:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12 2:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12 1:#12, 1:#12, 1:#12	Trip (A) 50 60 20	Poles 3 3 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	FN/Note		A (VA) 75 75 75 250 250 5597 5597		Ase B (VA) 75 75 75 75 5597 5597	Pha Load		FN/Note	Poles 2 2 2 2 1 3	Trip (A) 15 15 15 20 45	Custom Wire SizE 2-#12, 1-#12, 1-#14 2-#12, 1-#12, 1-#14 2-#12, 1-#12, 1-#14 1-#12, 1-#12, 1-#12	Description AC-1 AC-8 AC-6 CUH-4	MBW-12 MBW-14
CU-2 UH-5 AC-6 DNV-1 AC-3 UH-2	3#6, 1-#6, 1-#10 1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	60 20 20 20 15 20	3 1 2 1 2		5813	75 250 5597	5813	75 75 5597	5813	75		2 2 1	15 15 20	2-#12, 1-#12, 1-#14 2-#12, 1-#12, 1-#14	AC-8 AC-6	MBW-4 MBW-6 MBW-8 MBW-10 MBW-12 MBW-14
CU-2 UH-5 AC-6 DNV-1 AC-3 UH-2	3#6, 1-#6, 1-#10 1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	60 20 20 20 15 20	3 1 2 1 2		180	250	5813	75 75 5597	5813	75		2 2 1	15 15 20	2-#12, 1-#12, 1-#14 2-#12, 1-#12, 1-#14	AC-8 AC-6	MBW-6 MBW-8 MBW-10 MBW-12 MBW-14
UH-5 AC-6 DNV-1 AC-3 UH-2	1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	20 20 20 15 20	1 2 1 2		180	250	75	5597	5813	75		2	15 20	2-#12, 1-#12, 1-#14	AC-6	MBW-8 MBW-10 MBW-12 MBW-14
UH-5 AC-6 DNV-1 AC-3 UH-2	1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	20 20 20 15 20	1 2 1 2		180	250	75	5597				2	15 20	2-#12, 1-#12, 1-#14	AC-6	MBW-10 MBW-12 MBW-14
UH-5 AC-6 DNV-1 AC-3 UH-2	1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	20 20 20 15 20	1 2 1 2			5597	75	5597				1	20			MBW-12 MBW-14
AC-6 DNV-1 AC-3 UH-2	2-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12 2-#12, 1-#12, 1-#14 1-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12	20 20 15 20	2			5597					_	1	20			MBW-14
AC-6 DNV-1 AC-3 UH-2	2-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12 2-#12, 1-#12, 1-#14 1-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12	20 20 15 20	2			5597			75	5597				1-#12, 1-#12, 1-#12	CUH-4	
DNV-1 AC-3 UH-2	1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	20 15 20	1		225				75	5597	-	3	45			MIDIAL
DNV-1 AC-3 UH-2	1.#12, 1.#12, 1.#12 2.#12, 1.#12, 1.#14 1.#12, 1.#12, 1.#12 1.#12, 1.#12, 1.#12	20 15 20	1		225		180	250	75	5597		3	45			MBW-16
AC-3 UH-2	2-#12, 1-#12, 1-#14 1-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12	15 20	2		225		180	250					-	3-#8, 1-#8, 1-#10	CU-10	MBW-18
AC-3 UH-2	2-#12, 1-#12, 1-#14 1-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12	15 20	2		225	4800	180	250								MBW-20
UH-2	1-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12	20			225	4800						1	20	1-#12, 1-#12, 1-#12	CUH-3	MBW-22
UH-2	1-#12, 1-#12, 1-#12 1-#12, 1-#12, 1-#12	20			225	4800			225	4800		2	20	2-#12. 1-#12. 1-#12	NEMA1 15 kVA 240-208V, 120 V/208 V, Three Phase, 4	MBW-24
	1-#12, 1-#12, 1-#12		1											, ,	Wires, Wye	MBW-26
EF-4		20					700	250				1	20	1-#12, 1-#12, 1-#12	CUH-1	MBW-28
EF-4		20								1667	_					MBW-30
	1-#12, 1-#12, 1-#12		1		170	1667					_	3	20	3-#12, 1-#12, 1-#12	AHU-2	MBW-32
EF-5		20	1				170	1667								MBW-34
																MBW-36
																MBW-38
CU SERVIVE ECPT	1-#12, 1-#12, 1-#12	20	1				360									MBW-40
									7433	6057	_					MBW-42
CU-5	3-#6, 1-#6, 1-#8	70	3		7433	6057					_	3	50	3-#8, 1-#8, 1-#10	CU-7B	MBW-44
							7433	6057								MBW-46
									1667							MBW-48
HU-1	3-#12, 1-#12, 1-#12	20	3		1667											MBW-50
							1667									MBW-52
									333							MBW-54
EF-9	3-#12, 1-#12, 1-#14	15	3		333											MBW-56
							333									MBW-58
																MBW-60
						5813					_					MBW-62
AC-7	2-#12. 1-#12. 1-#14	15	2				75	5813				3	60	3-#6, 1-#6, 1-#10	CU-1	MBW-64
-									75	5813						MBW-66
											(Includes load	connected	via feed-thru lu	ıgs.)		
						Factor 123%					_			Panel Totals		
			0.36	i kVA		100%		0.3	36 kVA		-			ected Load: 135 kVA		
		L				100%					_		De	mand Load: 137 kVA		
											_		Dema	and Gurrent: 381 A		
AC-7		2-#12, 1-#12, 1-#14	2-#12, 1-#12, 1-#14 15	Corr Conne Conne Conne 10.6 0.36 121.8	Connected Load:	Connected Load: 46 Connected Current: 36 Connected 10.6 kVA 0.36 kVA 121.85 kVA	2-#12, 1-#12, 1-#14 15 2 Image: state in the s	2-#12, 1-#12, 1-#14 15 2 Image: connected Load: connected Load: connected Load: connected Load: 389 A 75 Connected Load: 46 kVA 43 Connected Current: 389 A 35 Sconnected Current: 389 A 35 Connected Current: 389 A 35 Onected Current: 10.6 kVA 123% O.36 kVA 100% I 121.85 kVA 100%	2-#12, 1-#12, 1-#14 15 2 Image: Connected Load: Connected Load: Connected Load: Connected Current: Current: Connected Current: Current: Connected Current: C	2-#12, 1-#12, 1-#14 15 2 Image: Connected Load: 26 kVA 75 5813 75 Connected Load: Connected Load: 389 A 46 kVA 43 kVA 46 kVA 46 kVA 43 kVA 46 kVA Connected Load: 389 A 355 A 388 Connected Current: 389 A 355 A 388 Connected Current: 389 A 355 A 388 Connected Current: 389 A 355 A 388 Ommand 10.6 kVA 123% 13 kVA Ommand 10.6 kVA 100% 0.36 kVA 121.85 kVA 100% 121.85 kVA	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2-#12, 1-#12, 1-#14 15 2 Image: Connected Load: Connected Load: Connected Load: Connected Current: Current: Connected Current: Curren	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

Pane	Iboard: PANE Location: Supply: Mounting: Enclosure:	SURFACE				F	Bus Ra	res &						I	Mains Type: 600A BRE. Mains Rating: 600 A Mains FN/Note: - SCCR: 18 kA	AKER	
Ckt	Description	Wire Size	Trip (A)	Poles	FN/Note	Pha	se A I (VA)		ise B I (VA)		se C (VA)	FN/Note	Poles	Trip (A)	Wire Size	Description	Ckt
MBE-1	CUH-6	1-#12, 1-#12, 1-#12	20	1	TN/NOLE	250	360	LUat		LUa		TN/NOLE	1	20	1-#12, 1-#12, 1-#12	RECS: CU SERIVE RECPT	MBE-2
MBE-3	BOILER 1	1-#12, 1-#12, 1-#14	15	1				460	75								MBE-4
MBE-5	BOILER 2	1-#12, 1-#12, 1-#14	15	1						460	75		2	15	2-#12, 1-#12, 1-#14	AC-11	MBE-6
MBE-7						75											MBE-8
MBE-9	AC-10	2-#12, 1-#12, 1-#14	15	2				75	75								MBE-10
MBE-11											75	_	2	15	2-#12, 1-#12, 1-#14	AC-12	MBE-12
MBE-13	10.40		45			75											MBE-14
MBE-15	AC-16	2-#12, 1-#12, 1-#14	15	2				75	75					45		10.17	MBE-16
MBE-17	AC-9	0 #10 1 #10 1 #14	15	2						75	75		2	15	2-#12, 1-#12, 1-#14	AC-17	MBE-18
MBE-19	AC-9	2-#12, 1-#12, 1-#14	15	2		75	75						2	15	0 #10 1 #10 1 #14	AC-13	MBE-20
MBE-21	AC-14	2-#12, 1-#12, 1-#14	15	2				75	75				2	10	2-#12, 1-#12, 1-#14	AC-13	MBE-22
MBE-23	AU-14	Z-#1Z, 1-#1Z, 1-#14	10	2						75	75		2	15	2-#12, 1-#12, 1-#14	AC-15	MBE-24
MBE-25						1667	75						2	10	2-#12, 1-#12, 1-#14	AC-13	MBE-26
MBE-27	AHU-3	3-#12, 1-#12, 1-#12	20	3				1667	1667								MBE-28
MBE-29										1667	1667		3	20	3-#12, 1-#12, 1-#12	AHU-4	MBE-30
MBE-31						4573	1667										MBE-32
MBE-33	CU-6	3-#8, 1-#8, 1-#10	45	3				4573	4573			_					MBE-34
MBE-35										4573	4573	_	3	50	3-#8, 1-#8, 1-#10	CU-8A	MBE-36
MBE-37						4573	4573										MBE-38
MBE-39	CU-9A	3-#8, 1-#8, 1-#10	45	3				4573	4573			_					MBE-40
MBE-41										4573	4573	-	3	45	3-#8, 1-#8, 1-#10	CU-9B	MBE-42
MBE-43						5163	4573										MBE-44
MBE-45	CU-8B	3-#8, 1-#8, 1-#10	50	3				5163	5597			-					MBE-46
MBE-47										5163	5597		3	45	3-#8, 1-#8, 1-#10	CU-11	MBE-48
MBE-49						236	5597										MBE-50
MBE-51	CU-3	3-#6, 1-#6, 1-#10	60	3				236	236								MBE-52
MBE-53										236	236		3	60	3-#6, 1-#6, 1-#10	CU-4	MBE-54
MBE-55						383	236										MBE-56
MBE-57	DOAS-2	3-#12, 1-#12, 1-#12	20	3				383									MBE-58
MBE-59										383							MBE-60
MBE-61																	MBE-62
MBE-63				Con	nected Load:	34	kVA	34	kVA	34	kVA			d via feed-thru lu			MBE-64
Load Classifi Motor HVAC Electric Heat	ication			Conne 1.15 99.92 0.25	kVA 4 kVA		5 A Factor 125% 100% 125%		1.4 99.	emand 38 kVA 924 kVA 113 kVA	5 A			Conr Connec De	Panel Totals nected Load: 103 kVA eted Current: 285 A emand Load: 103 kVA and Current: 286 A		
Notes:																	



Panelboard: PANEL PBW

, un	Location: \ Location: \ Supply: Mounting: F Enclosure: N	/ESTIBULE 001 /IDP :LUSH				Bus Ra	res &	l						Mains Type: MLO Mains Rating: 150 A Mains FN/Note: - SCCR: 18 kA		
Ckt	Description	Wire Size	Trip (A)	Poles FN/Note		ase A d (VA)		ase B d (VA)		se C I (VA)	FN/Note	Poles	Trip (A)	Wire Size	Description	Ckt
PBW-1	RECS: VEST 001	1-#12, 1-#12, 1-#12	20	1	1260	1080						1	20	1-#12, 1-#12, 1-#12	RECS: TEL COM 006	PBW-2
PBW-3	RECS: M TLT RM LL	1-#12, 1-#12, 1-#12	20	1			1620	900				1	20	1-#12, 1-#12, 1-#12	RECS: W TLT 010	PBW-4
PBW-5	RECS: MULTI SP 009	1-#12, 1-#12, 1-#12	20	1					1980	1440		1	20	1-#12, 1-#12, 1-#12	RECS: STORAGE 019	PBW-6
PBW-7	SP-1	1-#12, 1-#12, 1-#12	20	1	1200	75										PBW-8
PBW-9	RP-1	1-#12, 1-#12, 1-#12	20	1			700	75				2	15	2-#12, 1-#12, 1-#14	AC-35	PBW-10
PBW-11	WH-1	1-#12, 1-#12, 1-#12	20	1					700	365						PBW-12
PBW-13	AV 006 EQUIPMENT RACK	1-#12, 1-#12, 1-#12	20	1	360	365						2	15	2-#12, 1-#12, 1-#14	FCU-3	PBW-14
PBW-15	AV 006 EQUIPMENT RACK	1-#12, 1-#12, 1-#12	20	1			180	365								PBW-16
PBW-17	LIGHTS: STOR 015, VEST 016, STOR 019 LL	1-#12, 1-#12, 1-#12	20	1					136	365		2	15	2-#12, 1-#12, 1-#14	FCU-4	PBW-18
PBW-19	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1	119	146						1	20	1-#12, 1-#12, 1-#12	LIGHTS: MULTI SPACE 003	8 PBW-20
PBW-21	SBMS-1	1-#12, 1-#12, 1-#12	20	1			360	205				1	20	1-#12, 1-#12, 1-#12	LIGHTS: CLASSROOM 034	PBW-22
PBW-23	SBMS-2	1-#12, 1-#12, 1-#12	20	1					360	360		1	20	1-#12, 1-#12, 1-#12	HW 022/024	PBW-24
PBW-25	SBMS-3	1-#12, 1-#12, 1-#12	20	1	360											PBW-26
PBW-27	SBMS-4	1-#12, 1-#12, 1-#12	20	1			360	150								PBW-28
PBW-29	POWER	1-#12, 1-#12, 1-#12	20	1					0	150		2	15	2-#12, 1-#12, 1-#14	BS-3	PBW-30
PBW-31	Other	1-#12, 1-#12, 1-#12	20	1	180	150										PBW-32
PBW-33	40.00		45				75	150				2	15	2-#12, 1-#12, 1-#14	BS-1	PBW-34
PBW-35	AC-36	2-#12, 1-#12, 1-#14	15	2					75	150		_	45		50.7	PBW-36
PBW-37	40.24	0 #40 4 #40 4 #44	45	0	75	150						2	15	2-#12, 1-#12, 1-#14	BS-7	PBW-38
PBW-39	AC-34	2-#12, 1-#12, 1-#14	15	2			75	2110				_	00	0 1140 4 1140 4 1140	DTAO	PBW-40
PBW-41	LIGHTS: CORR 018, 014, VEST 007	1-#12, 1-#12, 1-#12	20	1					187	2110		2	20	2-#12, 1-#12, 1-#12	PTAC	PBW-42
				Connected Load: Connected Current:		kVA 6 A		kVA 3 A		VA 2 A	(Includes load	d connected	l via feed-thru l	ugs.)		
Load Class	sification			Connected		Factor		D	emand							
Motor				2.08 kVA		114%		2	38 kVA					Panel Totals		
Other				6.17 kVA		100%			17 kVA					nected Load: 21 kVA		
Lighting - Ir				0.794 kVA		125%			992 kVA		_			cted Current: 59 A		
Receptacle Receptacle	- General			6.48 kVA 0.54 kVA		100% 100%			48 kVA 54 kVA		_			emand Load: 22 kVA and Current: 61 A		
	ter Heating			0.54 kVA 0.7 kVA		125%			54 KVA 375 kVA		_		Dem			
HVAC				2.66 kVA		125 %			66 kVA		\neg					
			1				1	<u> </u>								

	Location: \ Supply: Mounting: S Enclosure: N	Surface					Bus Ra	res &			Mains Rating: 150 A Mains FN/Note: - SCCR: 18 kA						
Ckt	Description	Wire Size	Trip (A)	Poles	FN/Note		ase A d (VA)		ise B d (VA)		se C (VA)	FN/Note	Poles	Trip (A)	Wire Size	Description	Ckt
PFW-1	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1		51	162						1	20	1-#12, 1-#12, 1-#12	LIGHTING	PFW-2
PFW-3									490				1	20	1-#12, 1-#12, 1-#12	EF-2	PFW-4
PFW-5	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1						153							PFW-6
PFW-7	RECEPTACLE	1-#12, 1-#12, 1-#12	20	1		180	180						1	20	1-#12, 1-#12, 1-#12	LIGHTING - INTERIOR	PFW-8
PFW-9	HW 010/013	1-#12, 1-#12, 1-#12	20	1				360	1440				1	20	1-#12, 1-#12, 1-#12	RECS: OFFFICES 106, 112 1ST FLR	PFW-1
PFW-11	EF-1	1-#12, 1-#12, 1-#12	20	1						400	490		1	20	1-#12, 1-#12, 1-#12	EF-3	PFW-1
PFW-13	Other	1-#12, 1-#12, 1-#12	20	1		250	75							00		10.00	PFW-1
PFW-15									75				2	20	2-#12, 1-#12, 1-#12	AC-38	PFW-1
PFW-17	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1						1056							PFW-1
PFW-19	HD 103/116	1-#12, 1-#12, 1-#12	20	1		360	1560									011/0	PFW-2
PFW-21								150	1560				2	20	2-#12, 1-#12, 1-#12	CU-12	PFW-2
PFW-23	BS-5	2-#12, 1-#12, 1-#14	15	2	-					150	1440		1	20	1-#12, 1-#12, 1-#12	RECS: OFFICES 108, 110 1ST FLR	PFW-2
PFW-25	RECS: BOXING 101 1ST FLR	1-#12, 1-#12, 1-#12	20	1		1440	0										PFW-2
PFW-27									0				3	20	3-#12, 1-#12, 1-#12	ELEVATOR	PFW-2
PFW-29											0						PFW-3
PFW-31							383										PFW-3
PFW-33								667	383				3	20	3-#12, 1-#12, 1-#12	DOAS-1	PFW-3
PFW-35	P1	3-#12, 1-#12, 1-#12	20	3						667	383						PFW-3
PFW-37						667	667										PFW-3
PFW-39									667			-	3	20	3-#12, 1-#12, 1-#12	P2	PFW-4
PFW-41											667						PFW-4
PFW-43																	PFW-4
PFW-45																	PFW-4
PFW-47																	PFW-4
					nnected Load:		kVA 0 A		kVA 9 A		VA 5 A	(Includes load	d connected	l via feed-thru l	ugs.)	1	1
Load Clas	sification				ected		Factor			emand							
Motor Other					kVA kVA		109% 100%			23 kVA 94 kVA		_		Con	Panel Totals nected Load: 17 kVA		
_ighting - li	terior - Dedicated			1.44	kVA kVA		125% 100%		1.	8 kVA 18 kVA				Connec	cted Current: 48 A emand Load: 18 kVA		
IVAC					kVA		100%			4 kVA					and Current: 50 A		



Pan	Location: Supply: M Mounting: S Enclosure: N		Voltage: 208 V, 3Ø, 4W Bus Rating: 150 A Neutral: 100% Feed-Thru Lugs: Features & Modifications: -								Mains Type: MLO Mains Rating: 150 A Mains FN/Note: - SCCR: 18 kA						
Ckt	Description	Wire Size	Trip (A)	Poles	FN/Note	Pha Load	ase A d (VA)		ase B d (VA)		se C I (VA)	FN/Note	Poles	Trip (A)	Wire Size	Description	Ckt
PBE-1	EMERGENCY LTS 3RD FL	1-#12, 1-#12, 1-#12	20	1		1	119						1	20	1-#12, 1-#12, 1-#12	LTS MULTI SPACE 034	PBE-2
PBE-3	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1				102	464				1	20	1-#12, 1-#12, 1-#12	LTS EXERCISE RM 032	PBE-4
PBE-5	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1						119	165		1	20	1-#12, 1-#12, 1-#12	LIGHTS: RMS 012, 013, 010, 011, ST1LL	PBE-6
PBE-7	AV 208 EQUIPMENT RACK	1-#12, 1-#12, 1-#12	20	1		180	205						1	20	1-#12, 1-#12, 1-#12	LTS STORAGE 020	PBE-8
PBE-9	LIGHTS: EXERCISE RM 032	1-#12, 1-#12, 1-#12	20	1				549	1080				1	20	1-#12, 1-#12, 1-#12	RECS: STORAGE 037, 036	PBE-10
PBE-11	LIGHTS: DOJO 017 LL	1-#12, 1-#12, 1-#12	20	1						633	1260		1	20	1-#12, 1-#12, 1-#12	RECS: EXERCISE RM 031, LL	PBE-12
PBE-13	LTS TELECOM	1-#12, 1-#12, 1-#12	20	1		209	360						1	20	1-#12, 1-#12, 1-#12	AV 208 EQUIPMENT RACK	PBE-14
PBE-15	RECS: DOJO	1-#12, 1-#12, 1-#12	20	1				1440									PBE-16
PBE-17	RECS: EXERCISE RM 032, LL	1-#12, 1-#12, 1-#12	20	1						1440							PBE-18
PBE-19	RECS: CORR 025 & 033	1-#12, 1-#12, 1-#12	20	1		1080	1440						1	20	1-#12, 1-#12, 1-#12	RECS: CLASSROOM 034 LL	PBE-20
PBE-21								937	937								PBE-22
PBE-23	ERU-1	3-#12, 1-#12, 1-#12	20	3						937	937		3	20	3-#12, 1-#12, 1-#12	ERU-2	PBE-24
PBE-25						937	937										PBE-20
PBE-27																	PBE-28
PBE-29																	PBE-30
PBE-31																	PBE-32
PBE-33																	PBE-34
PBE-35																	PBE-36
PBE-37																	PBE-38
PBE-39																	PBE-40
PBE-41																	PBE-42
	I		1		nnected Load:		kVA 6 A		kVA 6 A		VA S A	(Includes load	connected	l via feed-thru lu	ugs.)	1	1
Load Class	sification			Conn	ected		Factor		D	emand							
Motor _ighting - Ir	nterior			5.62 2.567	2 kVA 7 kVA		113% 125%			23 kVA 09 kVA				Conr	Panel Totals nected Load: 16 kVA		
Receptacle	e - General			7.74	kVA		100%		7.	74 kVA				Connec	ted Current: 46 A		
Receptacle - Dedicated 0.54 kVA				kVA	100% 0.54 kVA				_			emand Load: 18 kVA and Current: 49 A					
Notes:						I											

	Location: Al Supply: M Mounting: Su Enclosure: N		I		res &				Mains Rating: 150 A Mains FN/Note: - SCCR: 18 kA						
Ckt	Description	Wire Size	Trip (A)	Poles FN/Note		ise A d (VA)	Pha Load	se B I (VA)		ise C d (VA)	FN/Note Pole	s Trip (A)	Wire Size	Description	Ckt
PFE-1	Lighting - Interior	1-#12, 1-#12, 1-#12	20	1	17							<u> </u>			PFE-2
PFE-3	LTS ART N CRAFT	1-#12, 1-#12, 1-#12	20	1			153	192			1	20	1-#12, 1-#12, 1-#12	LIGHTING - INTERIOR	PFE-4
PFE-5	RECS: BATHROOMS 103, 116 1ST FLR	1-#12, 1-#12, 1-#12	20	1					720	214	1	20	1-#12, 1-#12, 1-#12	LTS VEST 117	PFE-(
PFE-7	LIGHTING - INTERIOR	1-#12, 1-#12, 1-#12	20	1	1056	180					1	20	1-#12, 1-#12, 1-#12	RECEPTACLE	PFE-8
PFE-9	RECS: RMS 115, 119 1ST FLR	1-#12, 1-#12, 1-#12	20	1			1080	1440			1	20	1-#12, 1-#12, 1-#12	RECS: GYMNASIUM 121 1ST FLR	PFE-1
PFE-11	UH-1	1-#12, 1-#12, 1-#12	20	1					250						PFE-1
PFE-13	5011.4	0 1140 4 1140 4 1140	00		1500	180					1	20	1-#12, 1-#12, 1-#12	ELC-2	PFE-1
PFE-15	FCU-1	2-#12, 1-#12, 1-#12	20	2			1500	180			1	20	1-#12, 1-#12, 1-#12	RECS: COUNTER ARTS AND CRATFS RM	PFE-1
PFE-17	RECS: MAIN HALL 1ST FLR	1-#12, 1-#12, 1-#12	20	1					1440	75					PFE-1
PFE-19	ART 119 REFRIGERATOR	1-#12, 1-#12, 1-#12	20	1	180	75					2	20	2-#12, 1-#12, 1-#12	AC-37	PFE-2
PFE-21	EWC-1	1-#12, 1-#12, 1-#12	20	1			180	180			1	20	1-#12, 1-#12, 1-#12	ART 119 REFRIGERATOR	PFE-2
PFE-23									1500	180	1	20	1-#12, 1-#12, 1-#12	RECS: RM 115	PFE-2
PFE-25	FCU-2	2-#12, 1-#12, 1-#12	20	2	1500	180					1	20	1-#12, 1-#12, 1-#12	ART 119 REFRIGERATOR	PFE-2
PFE-27	ART 119 REFRIGERATOR	1-#12, 1-#12, 1-#12	20	1			180								PFE-2
PFE-29	LL BATH RECEPT	1-#12, 1-#12, 1-#12	20	1					180	180	1	20	1-#12, 1-#12, 1-#12	ART 119 REFRIGERATOR	PFE-3
PFE-31	Lighting - Interior	1-#12, 1-#12, 1-#12	20	1	30	333									PFE-3
PFE-33	Lighting - Interior	1-#12, 1-#12, 1-#12	20	1			17	333			3	15	3-#12, 1-#12, 1-#14	EF-10	PFE-3
PFE-35	ART 119 REFRIGERATOR	1-#12, 1-#12, 1-#12	20	1					180	333					PFE-3
PFE-37	Lighting - Interior	1-#12, 1-#12, 1-#12	20	1	7										PFE-3
PFE-39															PFE-4
PFE-41															PFE-4
PFE-43															PFE-4
PFE-45															PFE-4
PFE-47															PFE-4
	I		1	Connected Load: Connected Current:		kVA 4 A		VA 5 A		kVA 4 A	(Includes load connected via feed-thru lugs.)			1	
.oad Clas Aotor	sification			Connected 1 kVA		Factor 125%			emand 25 kVA		Panel Totals				
Other	aterior			0.4 kVA 1.686 kVA		100% 125%		0.	.4 kVA 07 kVA		Connected Load: 16 kVA Connected Current: 44 A				
-	- General			0.18 kVA		100%		0.	18 kVA		Demand Load: 17 kVA				
Receptacle IVAC	- Dedicated			1.08 kVA 6 kVA		100% 100%			08 kVA 6 kVA	A Demand Current: 46 A					



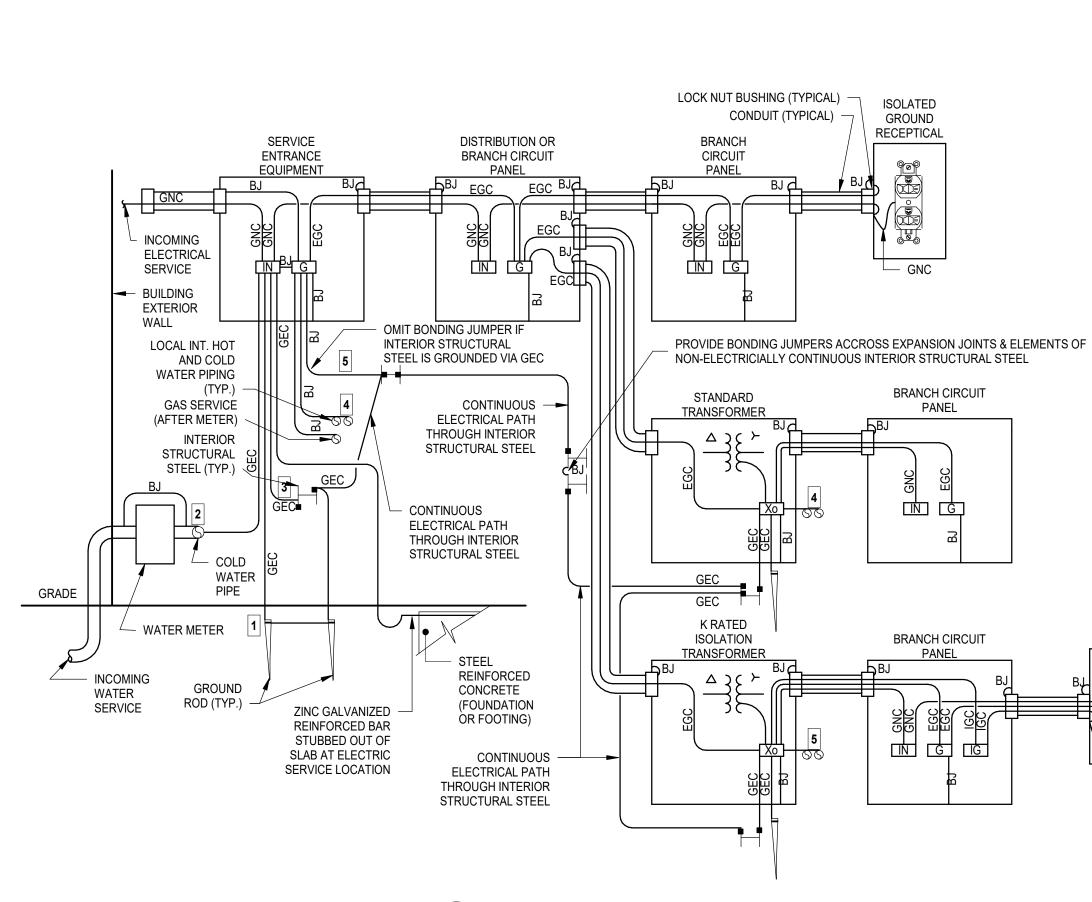
	Location: C Supply: Mounting: S Enclosure: N	Bus Rating: 100 A Neutral: 100% Feed-Thru Lugs: Features & Modifications: -								Mains Type: MLO Mains Rating: 100 A Mains FN/Note: - SCCR: 18 kA								
Ckt	Description	Wire Size	Trip (A)	Poles	FN/Note		ise A I (VA)	Pha Load			se C (VA)	FN/Note	Poles	Trip (A)	Wire	Size	Description	Ckt
PSW-1	RECS: COMPUTER RM 201 2ND FLR	1-#12, 1-#12, 1-#12	20	1		360	1260						1	20	1-#12, 1-#	<i>‡</i> 12, 1 - #12	RECS: COMP RM 201 2ND FLR	PSW-2
PSW-3	RECS: COMPUTER RM 201 2ND FLR	1-#12, 1-#12, 1-#12	20	1				1440	300				2	15	2-#12 1-#	<i>‡</i> 12, 1 - #14	AC-23	PSW-4
PSW-5	RECS: CORR 204, PPR OFFICE 203 2ND FLR	1-#12, 1-#12, 1-#12	20	1						1440	300				,	,		PSW-6
PSW-7	AC-24	2-#12, 1-#12, 1-#14	15	2		75	75						2	15	2 #12 1 +	<i>‡</i> 12, 1-#14	AC-25	PSW-8
PSW-9	A0-24	<i>Σ</i> -π12, Ι-π12, Ι-π1 4	10	2				75	75				2	15	Z-#12, 1-	r 12, 1- 11 14	A0-23	PSW-10
PSW-11	AC 00	0 #10 4 #10 4 #14	45	0						75	180		1	20	1-#12, 1-#	#12, 1-#12	RECS: OFFICE 112	PSW-12
PSW-13	AC-26	2-#12, 1-#12, 1-#14	15	2		75	180						1	20	1-#12, 1-#	<i>‡</i> 12, 1 - #12	RECS: ATTIC SERVICE	PSW-14
PSW-15	RECS: ATTIC SERVICE RECPT	1-#12, 1-#12, 1-#12	20	1				180										PSW-16
PSW-17	LIGHTS: RMS 203, 204	1-#12, 1-#12, 1-#12	20	1						102								PSW-18
PSW-19	LIGHTS: EXERCISE RM 032	1-#12, 1-#12, 1-#12	20	1		136												PSW-20
PSW-21	HAND DRYER 202	1-#12, 1-#12, 1-#12	20	1				180										PSW-22
PSW-23	EF-8	1-#12, 1-#12, 1-#12	20	1						50								PSW-24
PSW-25																		PSW-26
PSW-27																		PSW-28
PSW-29																		PSW-30
PSW-31																		PSW-32
PSW-33																		PSW-34
PSW-35																		PSW-36
PSW-37																		PSW-38
PSW-39																		PSW-40
PSW-41																		PSW-42
					nected Load: cted Current:		kVA B A	2 k	VA A		VA B A	(Includes load	l connected	d via feed-thru l	ugs.)			<u> </u>
_oad Class	sification			Conne		I	Factor			emand								
Notor				0.98	kVA		115%		1.	13 kVA					Panel 7			
.ighting - Ir Receptacle				0.239			125% 100%			298 kVA 88 kVA					nected Load: cted Current:			
HVAC				0.3			100%			.3 kVA				D	emand Load:	7 kVA		
														Dem	and Current:	19 A		
_																		

Pane	Elboard: PANE Location Supply Mounting Enclosure	: ARTS&CRAFTS 119 : MDP : Surface			Voltage: 208 V, 3Ø, 4W Bus Rating: 100 A Neutral: 100% Feed-Thru Lugs: Features & Modifications: -											
Ckt	Description	Wire Size	Trip (A)	Poles	FN/Note	Phase A Load (VA)		Phase B Load (VA)			ise C I (VA)	FN/Note	Poles	Trip		
MFE-1	EWC-1	1-#12, 1-#12, 1-#12	20	1		180	150									
MFE-3	CUH-6	1-#12, 1-#12, 1-#12	20	1				250	150				2	15		
MFE-5										75						
MFE-7	AC-19	2-#12, 1-#12, 1-#14	15	2		75	75									
MFE-9	10.00		45					75	75				2	15		
MFE-11	AC-20	2-#12, 1-#12, 1-#14	15	2						75	75					
MFE-13	EF-6	1-#12, 1-#12, 1-#12	20	1		170	75						2	15		
MFE-15	10.04		45					75								
MFE-17	AC-21	2-#12, 1-#12, 1-#14	15	2						75						
MFE-19						150										
MFE-21	BS-2	2-#12, 1-#12, 1-#14	15	2				150								
MFE-23	EF-7	1-#12, 1-#12, 1-#12	20	1						170						
MFE-25																
MFE-27																
MFE-29																
MFE-31																
MFE-33																
MFE-35																
MFE-37																
MFE-39																
MFE-41																
					nected Load: cted Current:		kVA 3 A		kVA A		kVA A	(Includes load	d connected	d via feed		
Load Classi	fication				ected		Factor			emand						
Other HVAC Electric Heat	IVAC			0.34 kVA 1.35 kVA 0.25 kVA			100% 100% 125%		0.34 kVA 1.35 kVA 0.313 kVA					C		
Notes:																

		Bus Ra	es &	L Contraction of the second seco						Mains Type: MLO Mains Rating: 100 A Mains FN/Note: - SCCR: 18 kA		
		ise A d (VA)		Phase B Phase C Load (VA) Load (VA)				Poles	Trip (A)	Wire Size	Description	Ckt
	180	150						2	15	2-#12, 1-#12, 1-#14	BS-4	MFE-2
			250	150				2	10	2-#12, 1-#12, 1-#14	D0-4	MFE-
					75							MFE-
	75	75						2	15	2 #12 1 #12 1 #14	AC-18	MFE-
			75	75				2	10	2-#12, 1-#12, 1-#14	AC-10	MFE-1
					75	75		0	45	0 #40 4 #40 4 #44	40.00	MFE-
	170	75					1	2	15	2-#12, 1-#12, 1-#14	AC-22	MFE-1
			75									MFE-1
					75							MFE-
	150											MFE-2
			150									MFE-2
					170							MFE-2
												MFE-2
												MFE-2
												MFE-3
												MFE-3
												MFE-3
												MFE-3
												MFE-3
												MFE-4
												MFE-4
: t:		kVA 8 A		kVA ′ A		KVA A	(Includes load	d connected	via feed-thru l	ugs.)		
		Factor 100%		De 0.3	emand 34 kVA	-				Panel Totals		
		100% 125%			35 kVA 13 kVA				Connec Do	nected Load: 2 kVA cted Current: 6 A emand Load: 2 kVA and Current: 6 A		

Location: STAGE 206 Supply: MDP Mounting: Surface Enclosure: NEMA 1					Voltage: 208 V, 3Ø, 4W Bus Rating: 150 A Neutral: 100% Feed-Thru Lugs: No Features & Modifications: -								Mains Type: MLO Mains Rating: 150 A Mains FN/Note: - SCCR: 18 kA					
Ckt	Description	Wire Size	Trip (A)	Poles	FN/Note		ase A d (VA)		ise B I (VA)	Pha: Load		FN/Note	Poles	Trip (A)	Wire Size	Description	Ckt	
PSS-1	RECS: STAGE 206	1-#12, 1-#12, 1-#12	20	1		540	170						1	20	1-#12, 1-#12, 1-#12	Lighting - Interior	PSS-2	
PSS-3	RECS: STAGE 206 2ND FLR	1-#12, 1-#12, 1-#12	20	1				900	390				1	20	1-#12, 1-#12, 1-#12	EXTERIOR LIGHTS	PSS-4	
PSS-5	RECS: AUDITORIUM 205 2ND FLR	1-#12, 1-#12, 1-#12	20	1						1440	6		1	20	1-#12, 1-#12, 1-#12	Lighting - Interior	PSS-6	
PSS-7	LIGHTS: STAGE, STAIRS	1-#12, 1-#12, 1-#12	20	1		68											PSS-8	
PSS-9	LIGHTS: AUDITORIUM 205	1-#12, 1-#12, 1-#12	20	1				844									PSS-10	
PSS-11	STAGE LIGHTING	1-#12, 1-#12, 1-#12	20	1						2000							PSS-12	
PSS-13	STAGE LIGHTING	1-#12, 1-#12, 1-#12	20	1		1600											PSS-14	
PSS-15	Lighting - Interior	1-#12, 1-#12, 1-#12	20	1				85									PSS-16	
PSS-17	Lighting - Interior	1-#12, 1-#12, 1-#12	20	1						85							PSS-18	
			<u></u>		nnected Load: ected Current:		kVA 0 A		kVA B A	4 k 30								
	sification			Conn	nected		Factor		D	emand								
_ighting - Ir					9 kVA		125% 100%			562 kVA				Com	Panel Totals			
receptacie	e - General			2.52	2 kVA		100%		Ζ	52 kVA		_			ted Current: 23 A			
			+									_			emand Load: 9 kVA			
														Dem	and Current: 26 A			
			<u> </u>											Dem	and Current: 20 A			





1 TYPICAL GROUNDING DIAGRAM 600-R 2 12" = 1'-0"

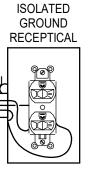
GENERAL NOTES:

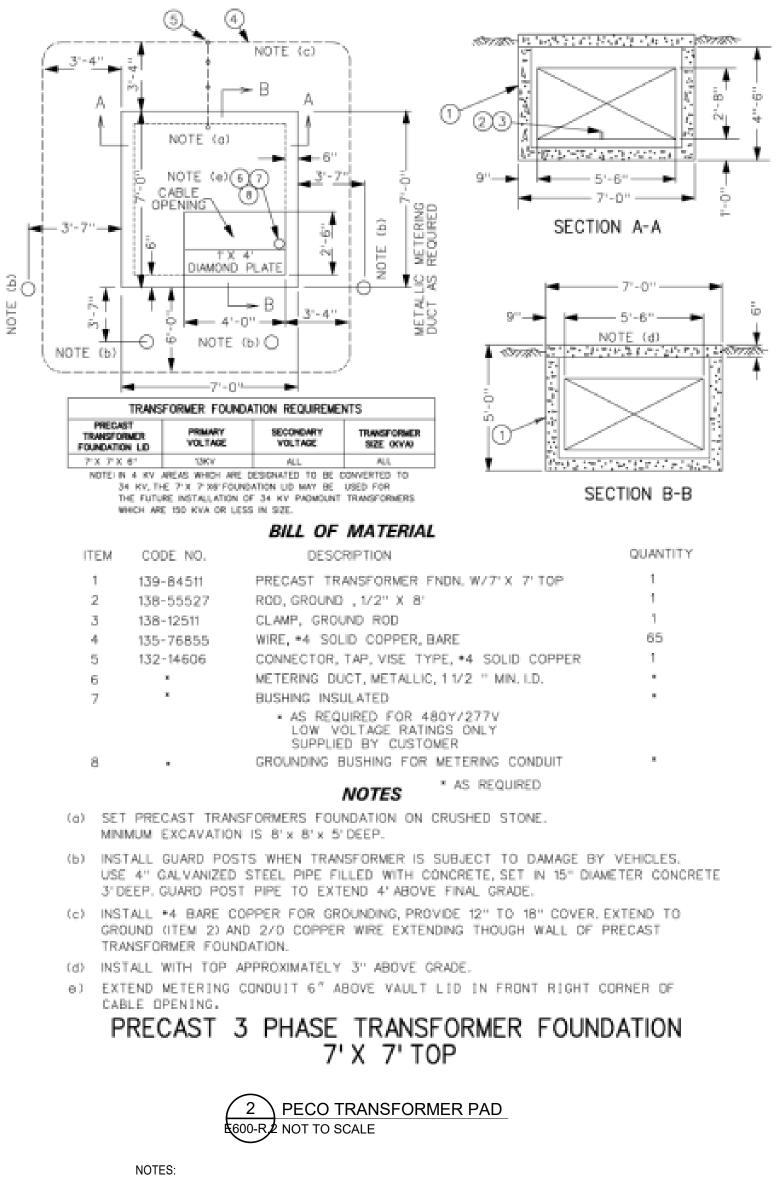
- 1. DETAIL IS TYPICAL AND IS INTENDED TO ILLUSTRATE METHODS OF GROUNDING AND BONDING OF ELECTRICAL DISTRIBUTION SYSTEM COMPONENTS AND BUILDING ELEMENTS. CONTRACTOR SHALL ADAPT DETAIL TO SUIT THE PARTICULAR APPLICATION AND MAY SUBMIT ALTERNATIVE METHODS TO THE ENGINEER FOR CONSIDERATION.
- 2. DETAIL IS TYPICAL FOR METALLIC RACEWAY AND BOX SYSTEMS. FOR METALLIC RACEWAY SYSTEMS WITH U.L.LISTED AND APPROVED BONDING LOCKNUTS OR BUSHINGS AND NONMETALLIC RACEWAYS AND/OR BOXES, ELIMINATE THE BONDING JUMPERS BETWEEN THE RACEWAY AND THE BOX.
- INSTALLATION AND CONNECTION OF DRIVEN GROUND RODS MUST BE DOCUMENTED BY RECORDING THE DEPTH OF COVER AND MEASURED DISTANCES FROM TWO FIXED PERMANENT OBJECTS OR BUILDING APPURTENANCES.
 GROUNDED NEUTRAL CONDUCTORS (GNC), EQUIPMENT GROUNDING CONDUCTORS (EGC), AND
- GROUNDED NEUTRAL CONDUCTORS (GNC), EQUIPMENT GROUNDING CONDUCTORS (EGC), AND ISOLATED GROUDING CONDUCTORS (IGC) SHALL BE INSULATED, GNC SHALL BE WHITE (OR GRAY). EGC SHALL BE GREEN, IGC SHALL BE GREEN WITH YELLOW STRIPE(S).
 GROUNDING ELECTRODE CONDUCTORS (GEC) SHALL BE INSULATED AND GREEN.
- 6. BONDING JUMPERS (BJ) MAY BE BARE WHERE COMPLETELY CONTAINED WITHIN AN ENCLOSURE OR INSULATED EXPOSED IN LENGTHS OF SIX FEET OR LESS. WHERE INSTALLED IN RACEWAY OR EXPOSED IN LENGTHS GREATER THAN SIX FEET THEY SHALL BE INSULATED AND SHALL BE GREEN.
- 7. METHODS OF ESTABLISHING THE GROUNDING ELECTRODE SHALL BE BY MEANS OF ONE OF THE COMBINATIONS OF GROUNDING ELECTRODE CONDUCTORS AND GROUNDING ELECTRODES INDICATED IN THE DETAIL.
- REFER TO THE NATIONAL ELECTRICAL CODE "GROUNDING ELECTRODE CONDUCTOR FOR ALTERNATING CURRENT SYSTEMS" TABLE (NEC 250-66) AND MINIMUM SIZE EQUIPTMENT GROUNDING CONDUCTORS FOR GROUNDING RACEWAY AND EQUIPTMENT TABLE (NEC 250-122) FOR SIZING OF GROUNDING AND BONDING CONDUCTORS THAT ARE NOT INDICATED IN THE SCHEDULES OR DIAGRAMS. TABLE 250.102(C)(1) GROUNDING CONDUCTOR, MAIN BONDING JUMPER SYSTEM
- BONDING JUMPER, AND SUPPLY SIDE BONDING JUMPER FOR ALTERNATING CURRENT SYSTEMS.
 9. NONE OF THE BUILDING STEEL IS INTENTIONALLY GROUNDED TO THE EXTENT THAT IT MAY BE USED AS THE GROUNDING ELECTRODE. CONTRACTOR SHALL GROUND THE BUILDING STEEL OR BOND IT TO THER SERVICE ENTRANCE EQUIPMENT.
- 10. FOR NEW BUILDINGS OR ADDITIONS, REFER TO PROJECT STRUCTURAL STEEL DRAWINGS TO DETERMINE THE QUANTITY AND LOCATION OF BONDING JUMPERS ACROSS EXPANSION JOINTS IN THE INTERIOR STRUCTURAL STEEL FRAMING SYSTEM, WHERE PORTIONS OF THE BUILDING BY CONNECTING CORRIDORS, BREEZEWAYS, ETC. THAT DO NOT CONTAIN INTERIOR STRUCTURAL STEEL.
- 11. ELECTRICALLY CONTINUOUS METAL BAR JOISTS IN MASONRY SHALL BE BONDED TO THE SERVICE ENTRANCE EQUIPMENT ENCLOSURE OR TO INTERIOR, GROUNDED, STRUCTURAL STEEL IN OTHER PORTIONS OF THE BUILDING.
- 12. THE EQUIPMENT GROUNDING CONDUCTOR OF CONDUITS SERVING GAS APPLIANCES MAY SERVE AS THE REQUIRED BONDING CONNECTION.13. REFER TO NEC FOR GROUND ROD SPACING.

LEGEND:

$\begin{array}{llllllllllllllllllllllllllllllllllll$	ED NEUTRAL CONDUCTOR ING ELECTRODE CONDUCTOR NT GROUNDING CONDUCTOR O GROUNDING CONDUCTOR
METHODS OF ES	TABLISHING GROUNDING ELECTRODE:
1 + 2 + 3 + 4 + 6	IF STRUCTURAL STEEL NOT GROUNDED VIA GEC
1 + 2 + 4 + 5 + 6	IF NEUTRAL/GNC NOT PRESENT
1 + 3 + 4 + 6	IF NO WATER METER NEARBY (OR AT INSTALLATION) AND STRUCTURAL STEEL NOT GROUNDED VIA GEC
1 + 2 + 5 + 6	IF NO WATER METER NEARBY (OR AT INSTALLATION) AND STRUCTURAL STEEL NOT GROUNDED VIA GEC AND NEUTRAL /GNC NOT PRESENT.

GROUND BAR SCHEDULE							
TYPE	DESCRIPTION	NOTES					
MGB	MAIN GROUNDING BAR : 6.35mm (1/4") THICK x 50.80mm (2") WIDE x 610mm (2'-0") COPPER GROUND BAR.	1					
TMGB	TELECOMMUNICATIONS GROUND BAR: 6.35mm (1/4") THICK x 457.2mm (4") WIDE x 457.2mm (18") LONG COPPER GROUND BAR DRILLED AND TAPPED PER SPECIFICATIONS.	1					
SCHEDULE NOTES:							
1.	PROVIDE ALL FITTINGS NECESSARY FOR A COMPLETE INSTALLATION	ON.					





1. FOR INFORMATION ONLY. CONTRACTOR TO REFER TO PECO REQUIREMENTS PRIOR TO INSTALLATION.



PLUMBING SYMBOLS

GENERAL SYMBOLS								
	POINT OF CONNECTION (NEW TO EXISTING)							
↔	EXTENT OF DEMOLITION							
♦	POINT OF CONNECTION TO EQUIPMENT SUPPLIED BY CONTRACTOR							
Ø	CENTERLINE							
Ø	DIAMETER							
-\\- \	BREAK LINE (SINGLE LINE)							
EQP # SIM	EQUIPMENT TAG - SEE EQUIPMENT DATA SHEET: EQPM = EQUIPMENT ABBREVIATION # = EQUIPMENT NUMBER DETAIL BUBBLE: 1 = DENOTES DETAIL NUMBER							
1 #	# = DENOTES DRAWING NUMBER OF DETAIL LOCATION SECTION CUT ARROW: A = DENOTES SECTION IDENTIFICATION # = DENOTES DRAWING NUMBER OF SECTION DETAIL							
S&V X	DRAINAGE RISER/ IDENTIFIER: S&V = WASTE STACK X = NUMBER							
CW X	SUPPLY PIPING RISER OR ROOM IDENTIFIER: CW = SERVICE TYPE X = NUMBER							

FION IDENTIFICATION WING NUMBER OF SECTION DETAIL DENTIFIER: ER OR ROOM IDENTIFIER:

LINE STYLES

	SANITARY PIPING
	VENT PIPING
RWC	RAIN WATER CONDUCTOR
	COLD WATER PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
G	NATURAL GAS PIPING
PD	PUMP DISCHARGE PIPING
IW	INDIRECT WASTE PIPING
——— A ———	MEDICAL AIR PIPING
V	MEDICAL VACUUM PIPING
O2	MEDICAL OXYGEN PIPING

\bowtie	SHUT-OFF VALVE
K	SOLENOID VALVE
X	PRESSURE REDUCING VALVE
γ	VACUUM RELIEF VALVE
	BALANCING VALVE
<i>₽</i> [−]	T&P RELIEF VALVE (ANGLE VALVE)
	MIXING VALVE
$\stackrel{\texttt{l}}{\searrow}$	CHECK VALVE
1 1	UNION
$\overline{\mathbf{A}}$	GAS COCK
	BACKFLOW PREVENTER
F	WATER HAMMER ARRESTOR
]	CAPPED END
\rightarrow	FLOOR CLEANOUT
	FLOOR DRAIN
$-\overline{00}$	ROOF DRAIN
1	WALL & BELOW FLOOR CLEANOUT
<u> </u>	PIPE DROP AND RISE
-0-	PIPE UP AND DOWN
P	PRESSURE GAUGE
	THERMOMETER
J D	RECIRCULATING PUMP
	WALL HYDRANT
	HOSE BIBB
	WATER METER
G	GAS METER

PLUMBING ABBREVIATIONS

AD AREA DRAIN AFF ABOVE FINISHED FLOOR ARCH ARCHITECTURAL

ABV ABOVE BFP BACKFLOW PREVENTER BFF BELOW FINISHED FLOOR BLDG BUILDING

BLW BELOW BWV BACKWATER VALVE CFH CUBIC FEET PER HOUR CLG CEILING

CONN CONNECTION CONT CONTINUATION CW COLD WATER

DF DRINKING FOUNTAIN DIA DIAMETER DFU DRAINAGE FIXTURE UNIT DN DOWN

EA EACH EL ELEVATION EQ EQUAL EWC ELECTRIC WATER COOLER (E) EXISTING EXIST EXISTING

EX EXISTING FCO FLOOR CLEANOUT

FD FLOOR DRAIN FF FINISHED FLOOR FLR FLOOR FW FILTERED WATER

G GAS GPM GALLONS PER MINUTE GW GREASE WASTE GCO GRADE CLEANOUT

HB HOSE BIBB HW HOT WATER HWR HOT WATER RETURN

INV INVERT IW INDIRECT WASTE I.E. INVERT ELEVATION

LAV LAVATORY LDR LEADER

MAX MAXIMUM MGAP MEDICAL GAS ALARM PANEL MGZV MEDICAL GAS ZONE VALVE BOX MIN MINIMUM MR MOP RECEPTOR MS MOP SINK

MV MIXING VALVE NC NORMALLY CLOSED NO NORMALLY OPEN NTS NOT TO SCALE NIC NOT IN CONTRACT

OFD OVER FLOW ROOF DRAIN

PRV PRESSURE REDUCING VALVE

RPZV REDUCED PRESSURE ZONE VALVE (RE) RELOCATE EXISTING

VTR VENT THRU ROOF

W/O WITHOUT WC WATER CLOSET WCO WALL CLEAN OUT

WH WALL HYDRANT WS WASTE STACK

PLUMBING GENERAL NOTES

PLUMBING SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES INDICATED ON THIS DRAWING ARE TYPICAL. PLUMBING DRAWINGS MAY NOT INDICATE ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING

SAFETY REQUIREMENTS

- 1. THE PLUMBING CONTRACTOR SHALL ABIDE AND ENFORCE ALL SAFETY RULES AND REGULATIONS SET FOURTH BY THE OWNER, ALL WORKERS AND SUPERVISORS MUST ATTAIN SAFETY TRAINING CLASSES (IF APPLICABLE), THE CONTRACTOR SHALL BE RESPONSIBLE TO FOLLOW ALL VERBAL INSTRUCTIONS GIVEN BY OWNERS REPRESENTATIVES.
- 2. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WARNING SIGNS, RIGGING, HANDLING AND PROTECTION OF MATERIAL. ALL EQUIPMENT MATERIALS SHALL BE NEW AND WITHOUT BLEMISHES OR DEFECTS. ALL EQUIPMENT INSTALLED SHALL BEAR THE LABEL OF THE APPROVING AGENCY.

GENERAL REQUIREMENTS

OWNER.

- 1. SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES INDICATED ON THIS DRAWING ARE TYPICAL. DRAWINGS MAY NOT INDICATE ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING.
- 2. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS.
- 3. THE TERM "PROVIDE" MEANS "FURNISH AND INSTALL"
- 4. ABIDE AND ENFORCE ALL SAFETY RULES AND REGULATIONS SET FORTH BY THE OWNER. ALL WORKERS AND SUPERVISORS MUST ATTAIN SAFETY TRAINING CLASSES (IF APPLICABLE). BE RESPONSIBLE TO FOLLOW ALL VERBAL INSTRUCTIONS GIVEN BY OWNERS REPRESENTATIVES.
- 5. THE SUBMISSION OF A BID BY THE CONTRACTOR IS NOTIFICATION THAT THE CONTRACTOR HAS TOTALLY FAMILIARIZED HIMSELF WITH THE CONTRACT DOCUMENTS AND EXISTING SITE CONDITIONS AND HAS AGREED TO PROVIDE THE NECESSARY LABOR AND MATERIAL FOR THE COMPLETE INSTALLATION OF EACH SYSTEM IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE BEST PRACTICES OF THE INDUSTRY AND IN COMPLIANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
- THESE DRAWINGS ARE PRESENTED TO THE CONTRACTOR WITH THE UNDERSTANDING THAT THE CONTRACTOR IS AN EXPERT AND COMPETENT IN THE PREPARATION OF CONTRACT BID PRICES ON THE BASIS OF INFORMATION SUCH AS IS CONTAINED IN THESE DOCUMENTS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION AND IN COMPLETE CONFORMANCE WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS. MINOR ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK AND IN THE PROPOSAL THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO DEPARTURES SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER AND
- VISIT THE SITE AND ADJOINING AREAS AND EXAMINE THE EXISTING CONDITIONS TO BECOME FAMILIAR WITH THEM AND TO DETERMINE THE DIFFICULTIES WHICH WILL AFFECT THE EXECUTION OF THE WORK OF THIS CONTRACT. THIS CONTRACTOR SHALL PERFORM THIS PRIOR TO THE SUBMISSION OF HIS PROPOSAL. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- 8. VISIT THE SITE AND VERIFY ALL DIMENSIONS IN THE FIELD, AND SHALL ADVISE THE ARCHITECT/ENGINEER AND THE OWNER OF ANY DISCREPANCIES BEFORE PERFORMING THE WORK.
- 9. THE DRAWINGS INDICATE ARRANGEMENTS AND APPROXIMATE SIZES AND RELATIVE LOCATIONS OF PRINCIPAL APPARATUS, EQUIPMENT, DEVICES, AND SERVICES TO BE PROVIDED. DRAWINGS ARE DIAGRAMMATIC AND ARE A GRAPHIC REPRESENTATION OF CONTRACT REQUIREMENTS TO THE BEST AVAILABLE STANDARDS AT THE SCALE INDICATED.
- 10. LAYOUT OF EQUIPMENT INDICATED ON THE DRAWINGS SHALL BE CHECKED AND COMPARED AGAINST ALL DRAWINGS AND SPECIFICATIONS OF ALL TRADES AND EXACT LOCATIONS DETERMINED USING APPROVED SHOP DRAWINGS OF SUCH EQUIPMENT. WHERE PHYSICAL INTERFERENCES OCCUR, CONSULT WITH ENGINEER AND PREPARE DATED, DIMENSIONED DRAWINGS COORDINATED WITH ALL OTHER TRADES WORKING IN THIS AREA AND CORRECTING SUCH INTERFERENCE.
- 11. SCHEDULE WORK IN ACCORDANCE WITH THE CONSTRUCTION SCHEDULE SO THAT ALL WORK CAN BE INSTALLED WITHOUT DELAYING THE PROJECT. ALL WORK RELATED TO SHUTDOWN OF EXISTING SERVICES SHALL BE PERFORME AT THE HOURS DESIGNATED BY THE OWNER WITH ALL ASSOCIATED COSTS BORNE BY THE CONTRACTOR AT NO COST TO THE OWNER. PROVIDE ANY TEMPORARY FACILITIES REQUIRED TO PERMIT THE OWNER'S USE OF EXISTING FACILITIES AND SYSTEMS TO REMAIN UNDISTURBED. COORDINATE ALL WORK, INCLUDING ALL SHUTDOWNS THAT AFFECT SYSTEMS AND/OR PORTIONS OF THE BUILDING THAT MUST REMAIN IN OPERATION, WITH THE OWNER AND ALL
- OTHER CONTRACTORS. 12. SECURE AND PAY ALL FEES, LICENSES, INSPECTIONS, AND PERMITS PERTAINING TO THE CONTRACT. SUBMIT TO OWNER DUPLICATE CERTIFICATES OF INSPECTION FROM APPROVED INSPECTION AGENCY.
- 13. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 14. BE RESPONSIBLE FOR WORKMEN'S IDENTIFICATION AND BADGING, SAFETY AND FIRE PROTECTION, BARRICADES, WARNING SIGNS, TRASH REMOVAL, CUTTING AND PATCHING. 15. BE RESPONSIBLE FOR ALL RIGGING, HANDLING, AND PROTECTION OF MATERIALS. ALL EQUIPMENT AND MATERIALS
- SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL EQUIPMENT INSTALLED SHALL BEAR THE LABEL OF AN APPROVED AGENCY.
- 16. PROVIDE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT, AND TRANSFER TO POINT OF INSTALLATION FOR ALL FURNISHED ITEMS. 17. WHERE CONDUIT, CABLES, DUCTWORK, OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE
- PENETRATION SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS ULLISTED AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE UL LISTED FIRE RATING OF THE PENETRATED WALL OR FLOOR.
- 18. BE RESPONSIBLE FOR ALL SLAB OPENINGS, WALL OPENINGS, BEAM PENETRATIONS, AND CORING AS IT RELATES TO HIS WORK. SUBMIT SIZE AND LOCATION FOR REVIEW AND APPROVAL.
- 19. ALL EXTERIOR WALL OPENINGS SHALL BE SLEEVED, PROPERLY CAULKED, AND SEALED WITH A HIGH QUALITY SEALANT TO PREVENT INFILTRATION OF MOISTURE AND OUTSIDE AIR.
- 20. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. CONTRACTOR TO NOTIFY OWNER PRIOR TO STARTING WORK TO VERIFY COMPLIANCE WITH BOND AND WARRANTY OF EXISTING ROOF.
- 21. RESTORE EXISTING SYSTEMS, DEVICES, FINISHED, ETC. DAMAGED OR ALTERED BY WORK TO ACCEPTABLE CONDITIONS AS DETERMINED BY THE OWNER, ARCHITECT, AND/OR ENGINEER. EXISTING SYSTEMS AND SERVICES THAT ARE TEMPORARILY DISCONNECTED BUT ARE TO REMAIN IN USE SHALL BE PERMANENTLY RECONNECTED AND RETURNED TO PROPER OPERATION.
- 22. SUBMIT A SCHEDULE OF SUBMITTALS PRIOR TO SUBMITTING ANY SHOP DRAWINGS, ETC. FOR THIS PROJECT, INCLUDING THE ANTICIPATED DATE OF EACH SUBMISSION. CONTRACTORS SHALL SUBMIT FOUR (4) SETS OF COMPLETE SHOP DRAWINGS AND CATALOG CUTS, WIRING DIAGRAMS AND ASSOCIATED DATA TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR STARTING ANY WORK. CONTRACTOR SHALL SUBMIT FOUR (4) PRINTS OF ALL PIPING AND DUCTWORK FIELD INSTALLATION DRAWINGS FOR EACH SYSTEM TO BE INSTALLED. ENGINEER SHALL RETAIN TWO (2) COPIES FOR RECORD AND RETURN TWO (2) COPIES TO CONTRACTOR VIA CONTRACTUAL REQUIREMENTS. ANY WORK INSTALLED OR EQUIPMENT PURCHASED PRIOR TO RECEIPT OF ENGINEER APPROVED SHOP DRAWINGS THAT REQUIRES CHANGES SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
- 23. SUBMIT CATALOG INFORMATION, FACTORY ASSEMBLY DRAWINGS AND FIELD INSTALLATION DRAWINGS AS REQUIRED FOR A COMPLETE EXPLANATION AND DESCRIPTION OF ALL ITEMS TO BE PROVIDED. REVIEW AND APPROVE ALL SHOP DRAWINGS. NO SUBMISSION WILL BE ACCEPTED WITHOUT THE SIGNED APPROVAL OF THE CONTRACTOR. CHECK AND VERIFY ALL FIELD MEASUREMENTS.
- 24. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL SUPPLY THE ENGINEER WITH ONE (1) COMPLETE SET OF AS-BUILT DRAWINGS IN ELECTRONIC AUTOCAD SOFTWARE FORMAT AT CONTRACTOR'S EXPENSE AND THREE (3) COMPLETE BOUND COPIES OF OPERATION AND MAINTENANCE MANUALS. THESE SHALL BE PROVIDED TO THE OWNER AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL INSTRUCT THE OWNER'S PERSONNEL WITH REGARD TO THE PROPER OPERATION OF ALL SYSTEMS TO THE SATISFACTION OF THE OWNER.
- 25. NOTIFY ENGINEER OF COMPLETION OF ALL WORK, INDICATING THE CONTRACTOR IS READY FOR THE ENGINEER TO PERFORM THE FINAL PUNCHLIST INSPECTION.
- 26. OBTAIN THE SERVICES OF AN INDEPENDENT AABC OR NEBB CERTIFIED BALANCING CONTRACTOR TO ADJUST EQUIPMENT TO ACHIEVE DESIGN AIR AND WATER FLOWS. ALL REQUIRED MEASURED PARAMETERS SHALL BE PRESENTED IN THE BALANCING REPORTS IN ORDER TO PROPERLY EVALUATE THE PERFORMANCE AND CAPACITY AT THE EQUIPMENT. BELTS AND SHEAVES SHALL BE REPLACED AS REQUIRED.
- 27. SUBMIT COPIES OF THE AIR BALANCE REPORT TO THE ENGINEER FOR APPROVAL. UPON APPROVAL, TWO COPIES SHALL BE TURNED OVER TO THE OWNER AND ONE COPY SHALL BE SUBMITTED TO THE TOWNSHIP INSPECTOR AT OR PRIOR TO FINAL INSPECTION.
- 28. UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED, ALL WORK FURNISHED UNDER THE CONTRACT SHALL BE GUARANTEED AGAINST ANY AND ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE INSTALLATION. ANY DEFECTS OF WORKMANSHIP DEVELOPING DURING THIS PERIOD SHALL BE REMEDIED AND ANY DEFECTIVE MATERIAL REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.
- 29. PREPARE FULLY DIMENSIONED FIELD SHEET METAL AND PIPING INSTALLATION DRAWINGS (MIN. 1/4"=1'-0" SCALE) THESE DRAWINGS SHALL BE FORWARDED TO ALL CONTRACTORS. EACH CONTRACTOR SHALL SUBSEQUENTLY IN SUCCESSION DELINEATE HIS RESPECTIVE WORK ON THESE COORDINATION DRAWINGS. WHEN ALL WORK HAS BEEN PROPERLY SHOWN ON THE COORDINATION DRAWINGS, AND ALL CONTRACTORS AGREE THAT THEIR RESPECTIVE WORK CAN BE INSTALLED AND WILL PROPERLY FIT TOGETHER. THEY SHALL SO ACKNOWLEDGE BY ENDORSING THE DRAWING(S). ANY WORK DONE PRIOR TO COMPLETION OF ABOVE COORDINATION PROCESS FOUND IN CONFLICT SHALL BE REMOVED AND REPLACED AT THE RESPECTIVE CONTRACTOR'S EXPENSE.
- 30. INSTALLED SYSTEMS SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT SOUND OR VIBRATION THAT IS OBJECTABLE TO THE ENGINEER, ARCHITECT, OR THE OWNER. OBJECTABLE SOUND OR VIBRATION CONDITIONS DUE TO WORKMANSHIP SHALL BE CORRECTED IN APPROVED MANNER BY THE CONTRACTOR AT HIS EXPENSE.
- 31. UPON COMPLETION OF ALL UNFINISHED OR FAULTY WORK NOTED IN ENGINEER FINAL PUNCH LIST, SUBMIT TO THE ENGINEER IN WRITING A LETTER OF COMPLETION CERTIFYING THAT ALL PUNCH LIST ITEMS HAVE BEEN COMPLETED AND ALL AS-BUILTS, MANUALS, ETC. HAVE BEEN SUBMITTED.
- 32. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLAB AND WALL OPENINGS, BEAM PENETRATIONS AND CORING DRILLING AS IT RELATES TO HIS WORK. PLUMBING CONTRACTOR SHALL SUBMIT SIZE AND LOCATION OF ALL SLAB AND WALL OPENINGS AND BEAM PENETRATIONS, AND COR DRILLING TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL
- 33. EFFECTIVELY PROTECT ALL MATERIAL AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE DAMAGED ITEMS AT NO ADDITIONAL LOST TO OWNER.
- 34. REFERENCED MANUFACTURES DENOTES A MINIMUM ACCEPTABLE LEVEL OF QUALITY AND IS NOT INTENDED TO PREVENT SUBMISSION OF EQUIVALENT EQUIPMENT.
- 35. ALL WORK BEING INSTALLED IN AIR PLENUM SPACES MUST BE INSTALLED WITH PLENUM RATED MATERIAL. ANY EXISTING NON-PLENUM RATED PLUMBING PIPE LOCATED WITHIN THESE PLENUM RATED AREAS SHALL BE WRAPPED WITH A PLENUM RATED PIPE WRAPPING MATERIAL.

RD ROOF DRAIN REC RECOVERY (R) REMOVE RWC RAIN WATER CONDUCTOR SANITARY SH SHOWER SK SINK SP SUMP PUMP SS SOIL STACK SSK SERVICE SINK ST STORM WATER SW SOFT WATER TP TRAP PRIMER TW TEMPERED WATER

UR URINAL V VENT VS VENT STACK W WASTE

WFU WATER SUPPLY FIXTURE UNITS

PROJECT COORDINATION

- 1. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COORDINATING ALL WORK WITH ALL TRADES
- 2. COORDINATE THE INSTALLATION OF ALL WORK WITH THE LOCAL UTILITIES AND OTHER BUILDING TRADES. THE CONTRACTOR SHALL INFORM THE OWNER IN WRITING WHEN HE INTENDS TO SCHEDULE WORK WHICH INVOLVES EXISTING SYSTEMS AND/OR UTILITIES. NOTICE SHALL BE GIVEN ONE WEEK PRIOR TO THE ANTICIPATED WORK. THE CONTRACTOR MUST RECEIVE APPROVAL FROM THE OWNER PRIOR TO PERFORMING SUCH WORK.
- 3. PLUMBING WORK SHALL BE DONE AT SUCH A TIME AND MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF THE SITE AND OR BUILDING ACTIVITIES. PROVISIONS SHALL BE MADE TO PERMIT THE USE OF ALL EXISTING PIPING SYSTEMS AT ALL TIMES. PROVIDE TEMPORARY FACILITIES TO SECURE THESE CONDITIONS AND REMOVE SUCH TEMPORARY FACILITIES WHEN NO LONGER REQUIRED.
- 4. COORDINATE PLUMBING SYSTEM SHUT DOWN REQUIREMENTS WITH OWNER.
- 5. WHERE SHUTDOWN PERIODS CANNOT BE OF A DURATION TO ACCOMMODATE THE NEW WORK, THE CONTRACTOR SHALL PERFORM THE WORK IN A SERIES OF PRE-PLANNED STAGES OF MINIMAL ALLOWABLE SHUTDOWN PERIODS. PROVIDE TEMPORARY FACILITIES TO ALLOW REUSE OF SERVICES BETWEEN WORKING STAGES.
- 6. THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK IN CONJUNCTION WITH ALL TRADES.
- 7. DURING THE CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR SHALL COORDINATE WITH BUILDING REPRESENTATIVES THE TEMPORARY SHUTDOWN OR CAPPING OF ANY PLUMBING SYSTEMS.
- 8. CONTRACTOR SHALL PROVIDE THE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT AND TRANSFER TO POINT OF INSTALLATION OWNER FURNISHED ITEMS.
- 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLAB AND WALL OPENINGS, BEAM PENETRATIONS AND CORING DRILLING AS IT RELATES TO HIS WORK. PLUMBING CONTRACTOR SHALL SUBMIT SIZE AND LOCATION TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.

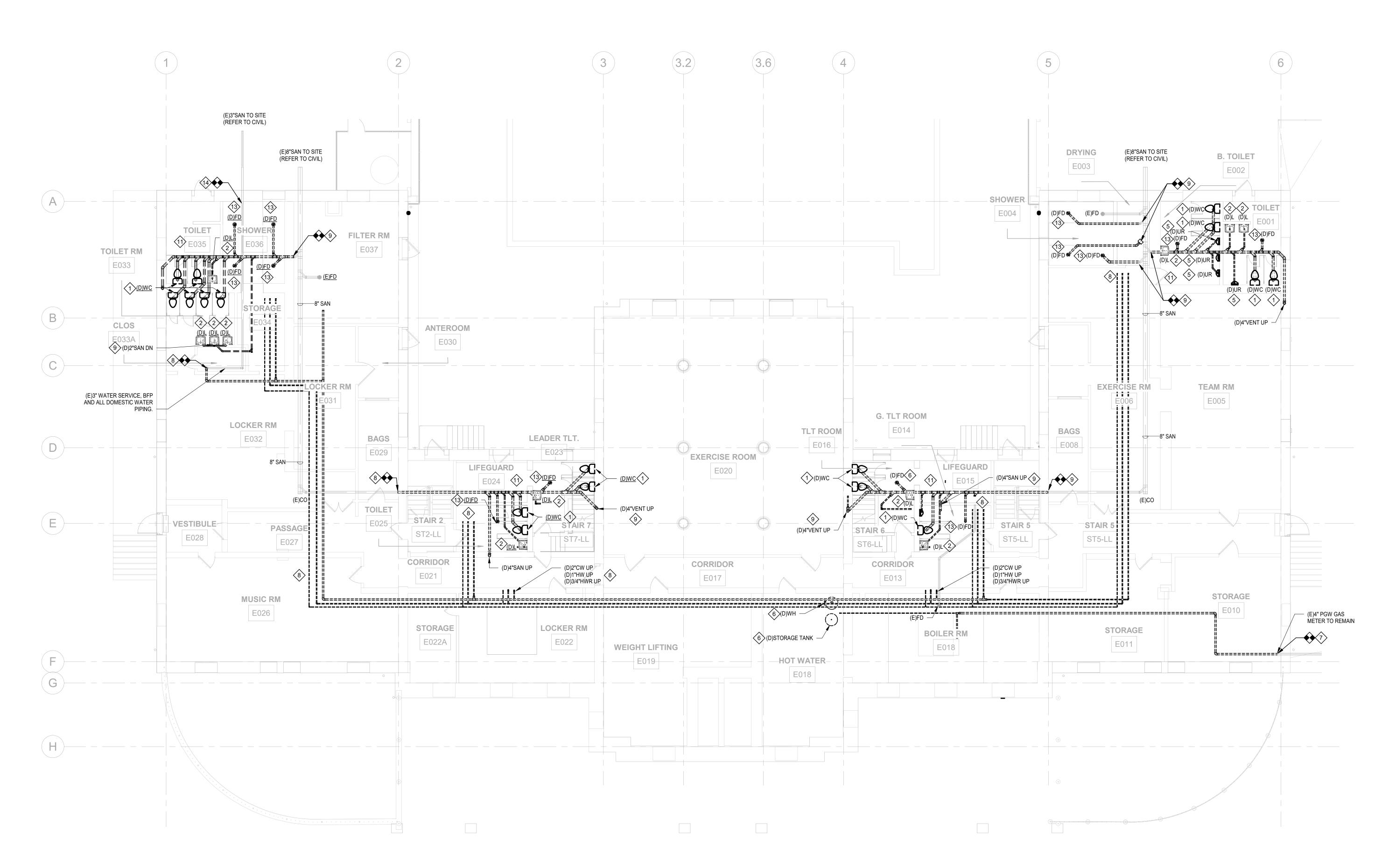
GENERAL COMPLIANCE - PA

- 1. ALL PLUMBING MATERIAL, FIXTURES AND EQUIPMENT SHALL BE LISTED BY THE FOLLOWING APPLICABLE STANDARDS
- 2018 PHILADELPHIA PLUMBING CODE
- 2018 INTERNATIONAL FUEL GAS CODE 2018 INTERNATIONAL BUILDING CODE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) AMERICAN SOCIETY FOR TESTING MATERIAL (ASTM)
- AMERICAN WATER WORKS ASSOCIATION (AWWA) CAST IRON SOIL PIPE (CISPI)
- MANUFACTURING STANDARDIZATION SOCIETY (MSS) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- NATIONAL SANITATION FOUNDATION (NSF) UNDERWRITERS LABORATORIES (UL)

PROTECTION OF WORK

1. EFFECTIVELY PROTECT ALL MATERIAL AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE DAMAGED ITEMS AT NO ADDITIONAL COST TO OWNER.





1 PLUMBING DEMOLITION - REC CENTER LOWER LEVEL BASE SCOPE R100-R 2 1/8" = 1'-0"

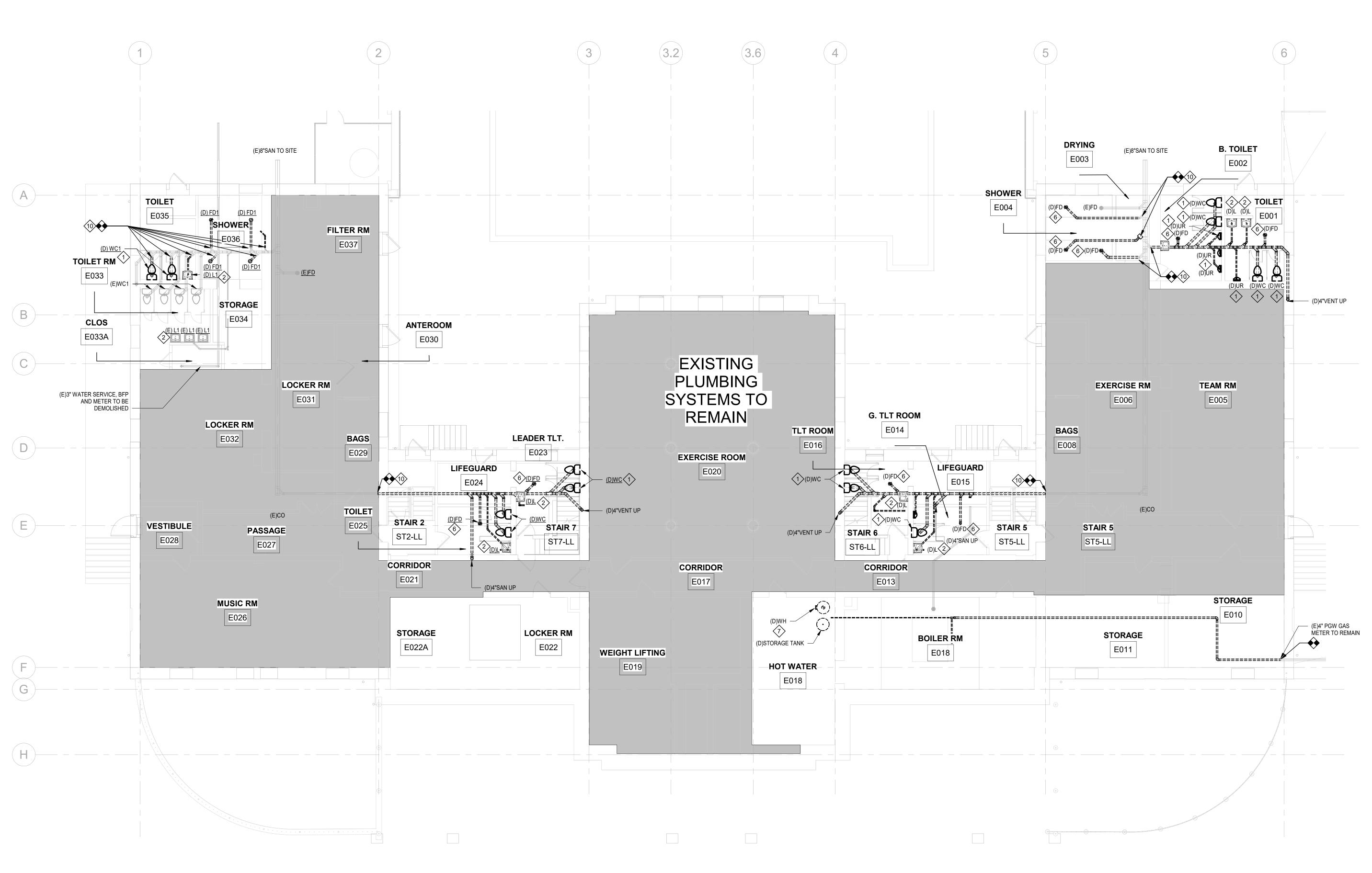
PLUMBING NOTES:

- REFER TO P-0.1 FOR PLUMBING NOTES, LEGENDS AND ABBREVIATIONS.
 REFER TO SCHEDULES AND PLUMBING DETAILS PERTAINING TO THIS
- PROJECT.
 CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
 ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE
- MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL
 CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE
 WRITTEN INSTRUCTIONS.
 ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE
- FIRE RATING OF THE ASSEMBLY AS PER THE INTERNATIONAL BUILDING CODE.6. COORDINATE ELECTRICAL INSTALLATION WITH ELECTRICAL DESIGN
- DRAWINGS.7. ALL SANITARY AND STORM PIPING OF 4" IN SIZE OR GREATER SHALL BE PITCHED AT 1/8" SLOPE UNLESS OTHERWISE NOTED.
- ALL SANITARY AND STORM PIPING OF 3" IN SIZE OR SMALLER SHALL BE PITCHED AT 1/4" SLOPE UNLESS OTHERWISE NOTED.
- ALL VALVES AND CLEANOUTS SHALL BE INSTALLED AS ACCESSIBLE WITH ADEQUATELY SIZED ACCESS DOORS.
 DROVIDE SUBSECTATION OF SOUTH TEXTS OF SOUTH TEXTS
- PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS.
 ALL DOMESTIC WATER PIPING SHALL BE INSTALLED WITHIN THE THERMAL ENVELOPE OF THE BUILDING.
- 12. ALL PIPING IS CONSIDERED TO BE NEW UNLESS OTHERWISE IDENTIFIED AS EXISTING TO REMAIN OR TO BE DEMOLISHED.

DEMOLITION KEYNOTES:

- DISCONNECT AND REMOVE EXISTING WATER CLOSET FIXTURE IN ITS ENTIRETY, BUT NOT LIMITED TO FIXTURE, SUPPLY PIPING, DRAINAGE PIPING, TRAPS, HANGERS AND SUPPORTS.
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- DISCONNECT AND REMOVE EXISTING URINAL FIXTURE IN ITS ENTIRETY, BUT NOT LIMITED TO FIXTURE, DRAINAGE PIPING, TRAPS, HANGERS AND SUPPORTS.
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- DISCONNECT AND REMOVE ALL NATURAL GAS PIPING TO POINT INDICATED
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- BUILDING BACK TO POINT INDICATED ON DRAWINGS. THIS INCLUDES DOMESTIC HOT AND COLD WATER PIPING, FITTINGS, VALVES AND SUPPORTS.
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- DISCONNECT AND REMOVE EXISTING FLOOR DRAIN IN ITS ENTIRETY, BUT NOT LIMITED TO DRAIN, PIPING, AND FITTING.
- DISCONNECT AND REMOVE DOMESTIC WATER SERVICE PIPING AND BACKFLOW PREVENTOR BACK TO POINT INDICATED ON THE DRAWINGS. THIS SCOPE OF WORK APPLIES ONLY WHEN ADD ALTERNATE SCOPE OF WORK IS ACCEPTED.





1 PLUMBING DEMOLITION - REC CENTER LOWER LEVEL DEDUCT ALT. P100B-R/2 1/8" = 1'-0"

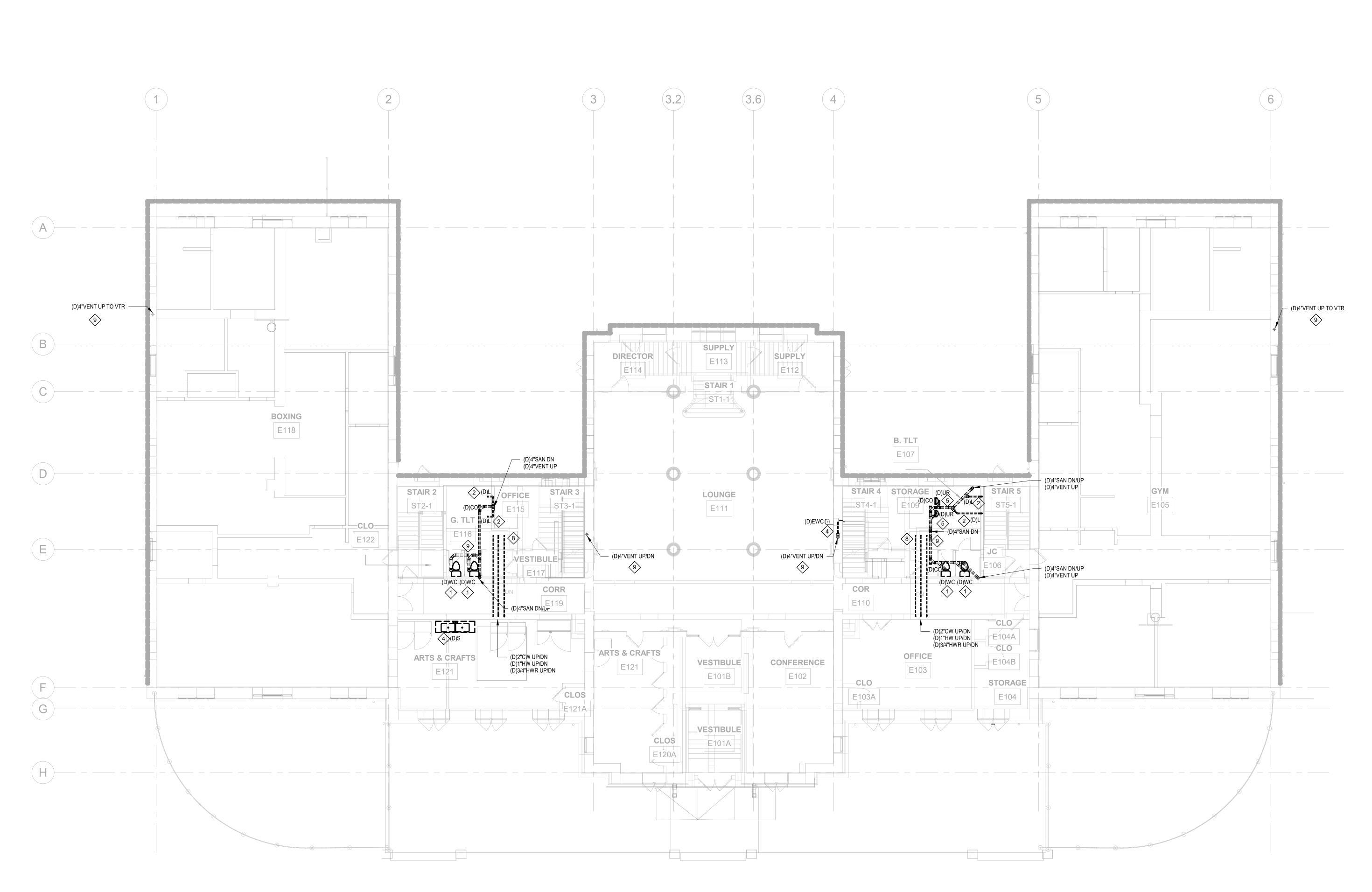
PLUMBING NOTES:

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 REFER TO SCHEDULES AND PLUMBING DETAILS PERTAINING TO THIS
- PROJECT.
 3. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
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- ALL VALVES AND CLEANOUTS SHALL BE INSTALLED AS ACCESSIBLE WITH ADEQUATELY SIZED ACCESS DOORS.
 PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS.
- ALL DOMESTIC WATER PIPING SHALL BE INSTALLED WITHIN THE THERMAL ENVELOPE OF THE BUILDING.
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- DISCONNECT AND REMOVE EXISTING URINAL FIXTURE IN ITS ENTIRETY, BUT NOT LIMITED TO FIXTURE, DRAINAGE PIPING, TRAPS, HANGERS AND SUPPORTS.
- Isconnect and Remove existing water heater and storage tank
equipment in its entirety, but not limited to fixture, supply piping,
traps, hangers and supports.
- DISCONNECT AND REMOVE ALL NATURAL GAS PIPING TO POINT INDICATED
ON PLANS IN ITS ENTIRETY, BUT NOT LIMITED TO PIPING, FITTINGS, VALVES,
AND SUPPORTS.
- BUILDING BACK TO POINT INDICATED ON DRAWINGS. THIS INCLUDES DOMESTIC HOT AND COLD WATER PIPING, FITTINGS, VALVES AND SUPPORTS.
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1 PLUMBING DEMOLITION - REC CENTER FIRST FLOOR

PLUMBING NOTES:

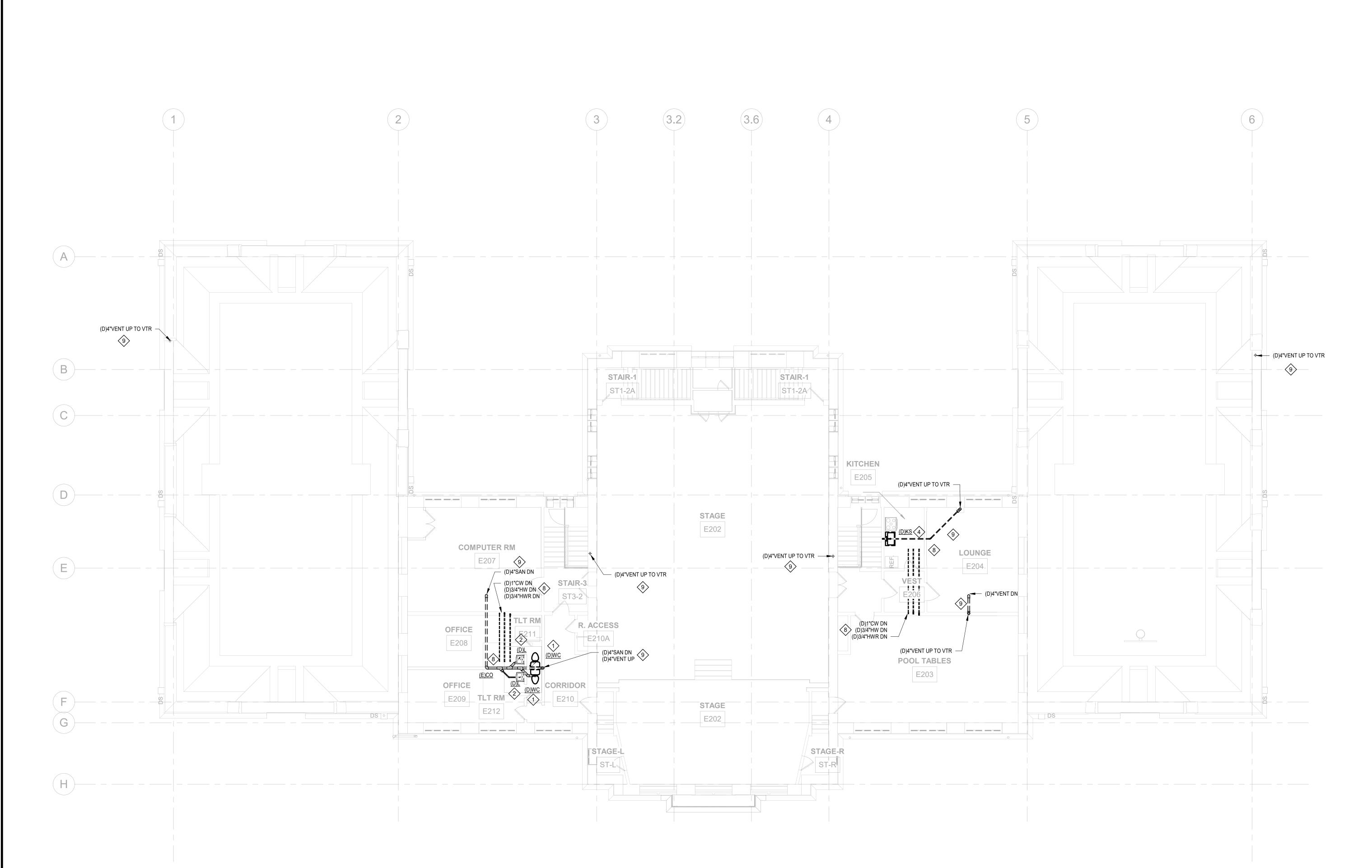
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 REFER TO SCHEDULES AND PLUMBING DETAILS PERTAINING TO THIS
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- PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS.
 ALL DOMESTIC WATER PIPING SHALL BE INSTALLED WITHIN THE THERMAL ENVELOPE OF THE BUILDING.
 ALL PIPING IS CONSIDERED TO BE NEW UNLESS OTHERWISE IDENTIFIED AS

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1 PLUMBING DEMOLITION - REC CENTER SECOND FLOOR R102-R 1/8" = 1'-0"

PLUMBING NOTES:

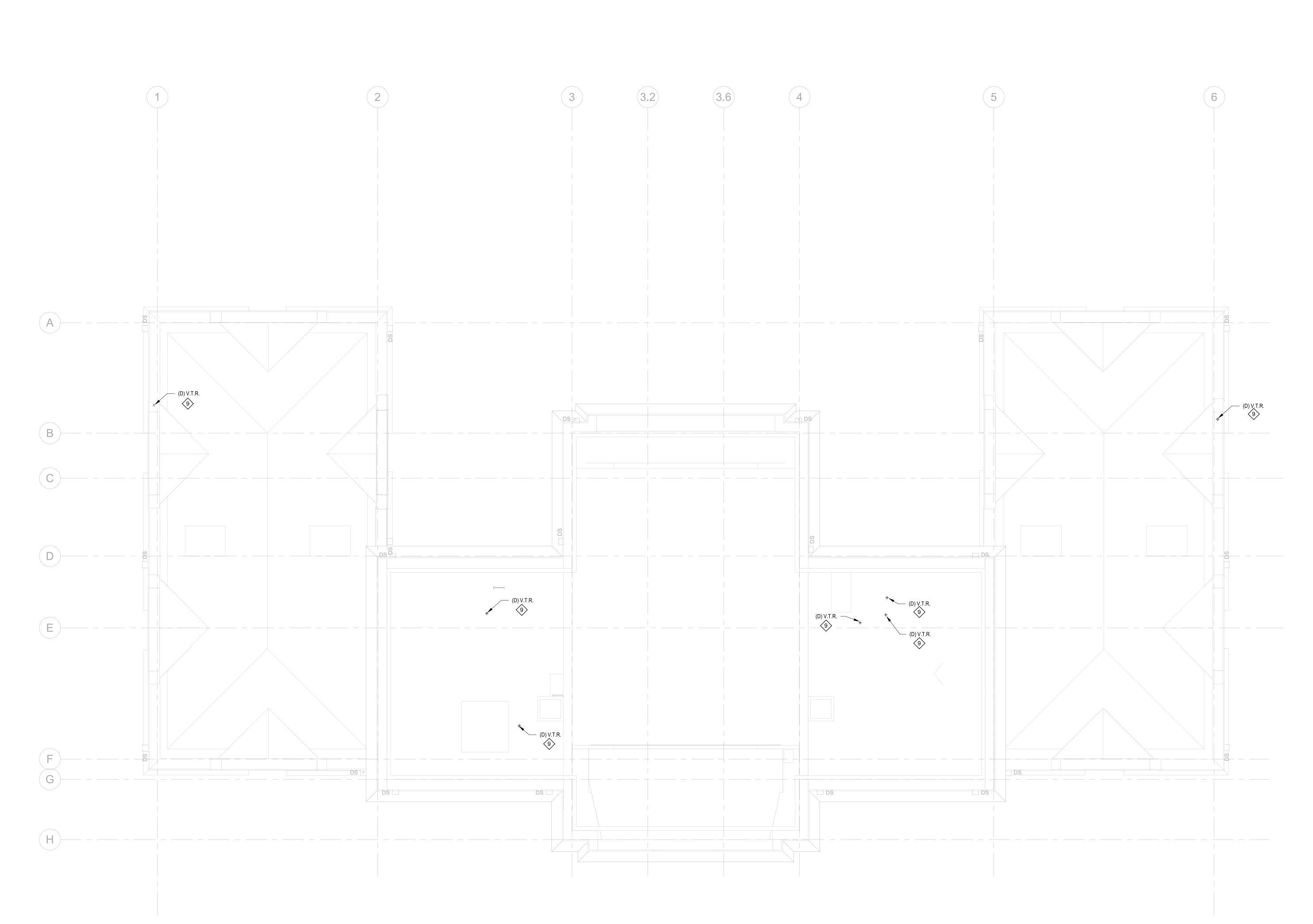
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- PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS.
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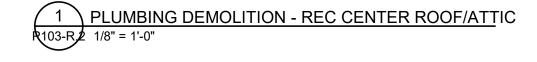
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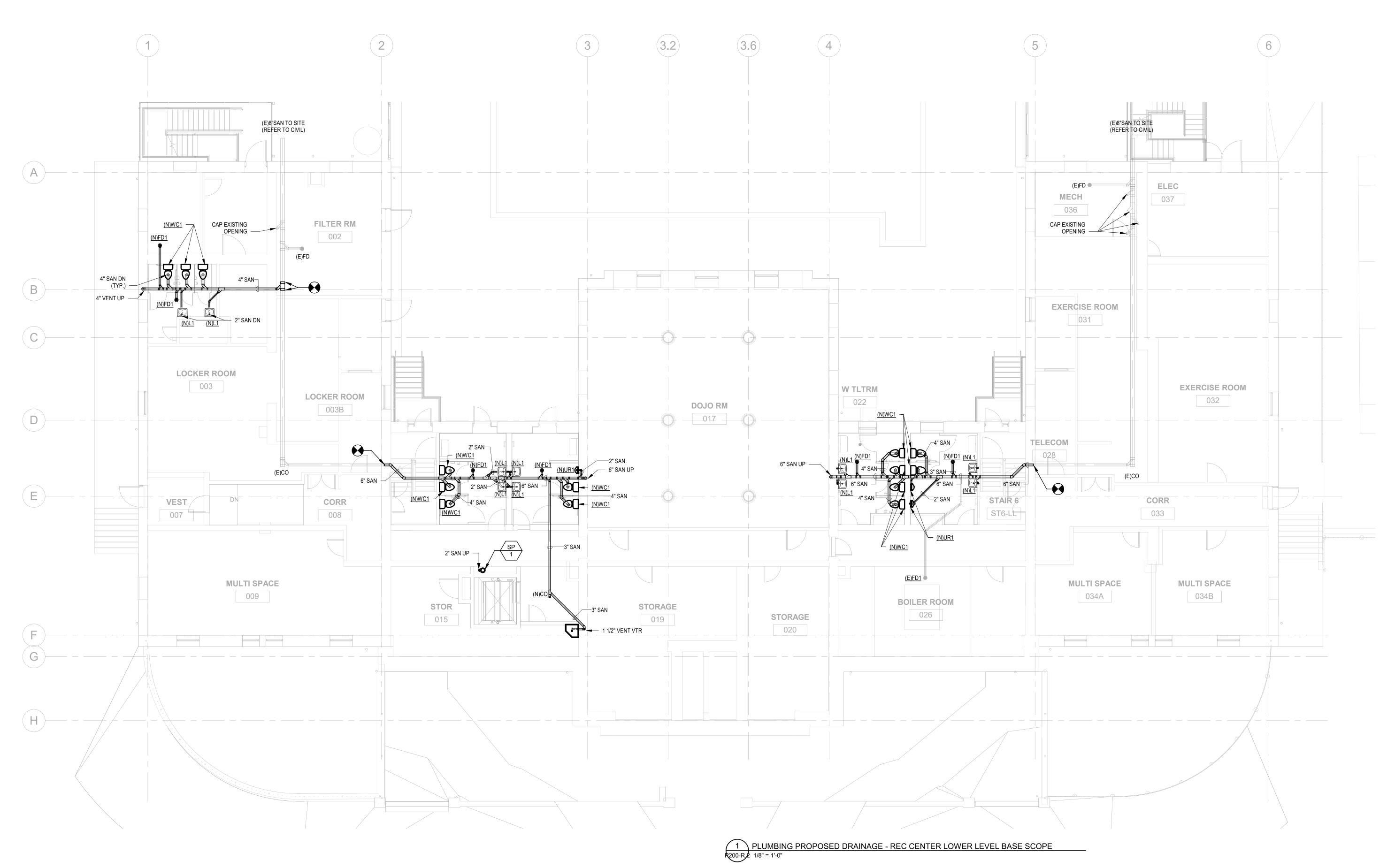


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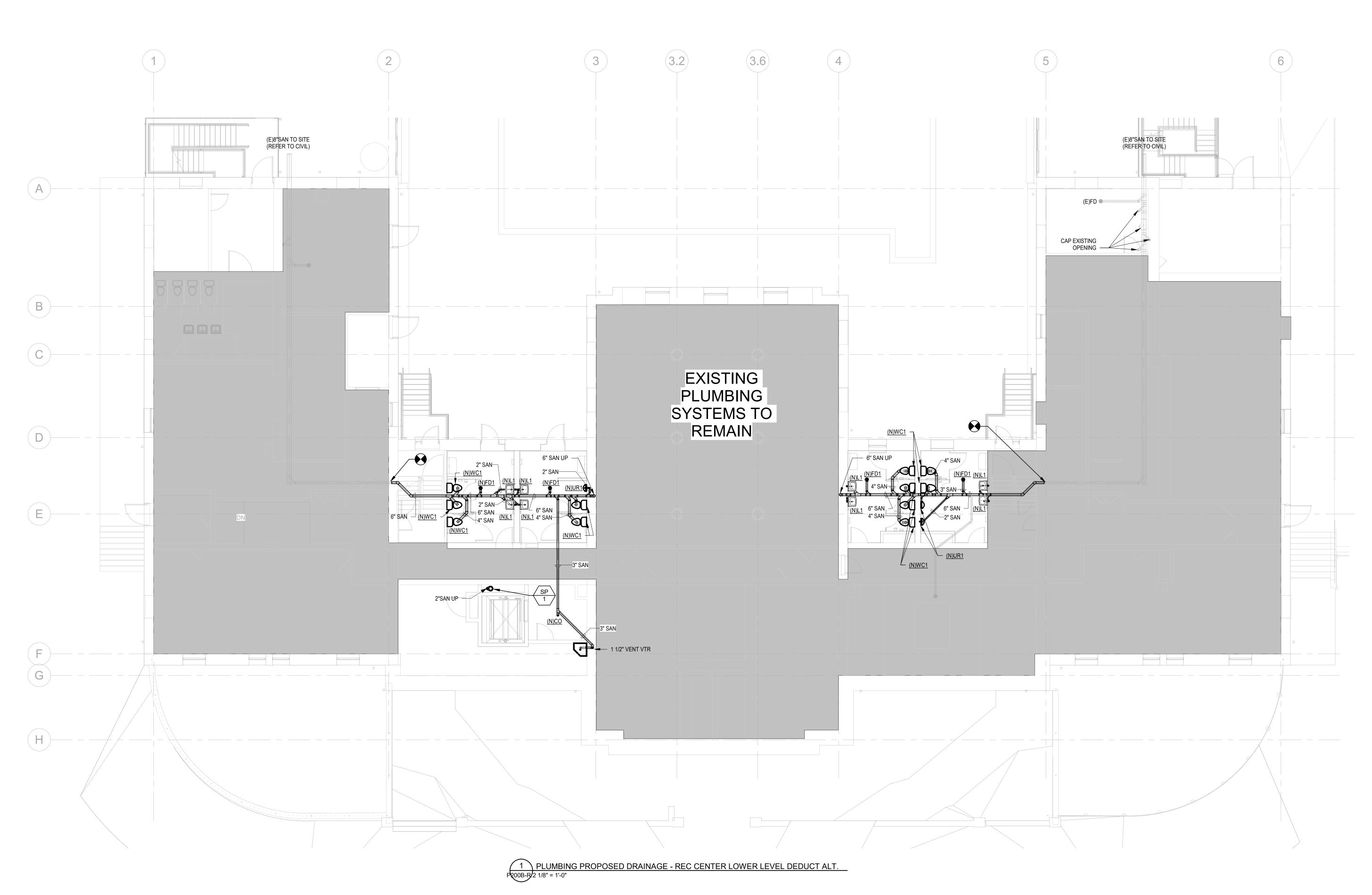
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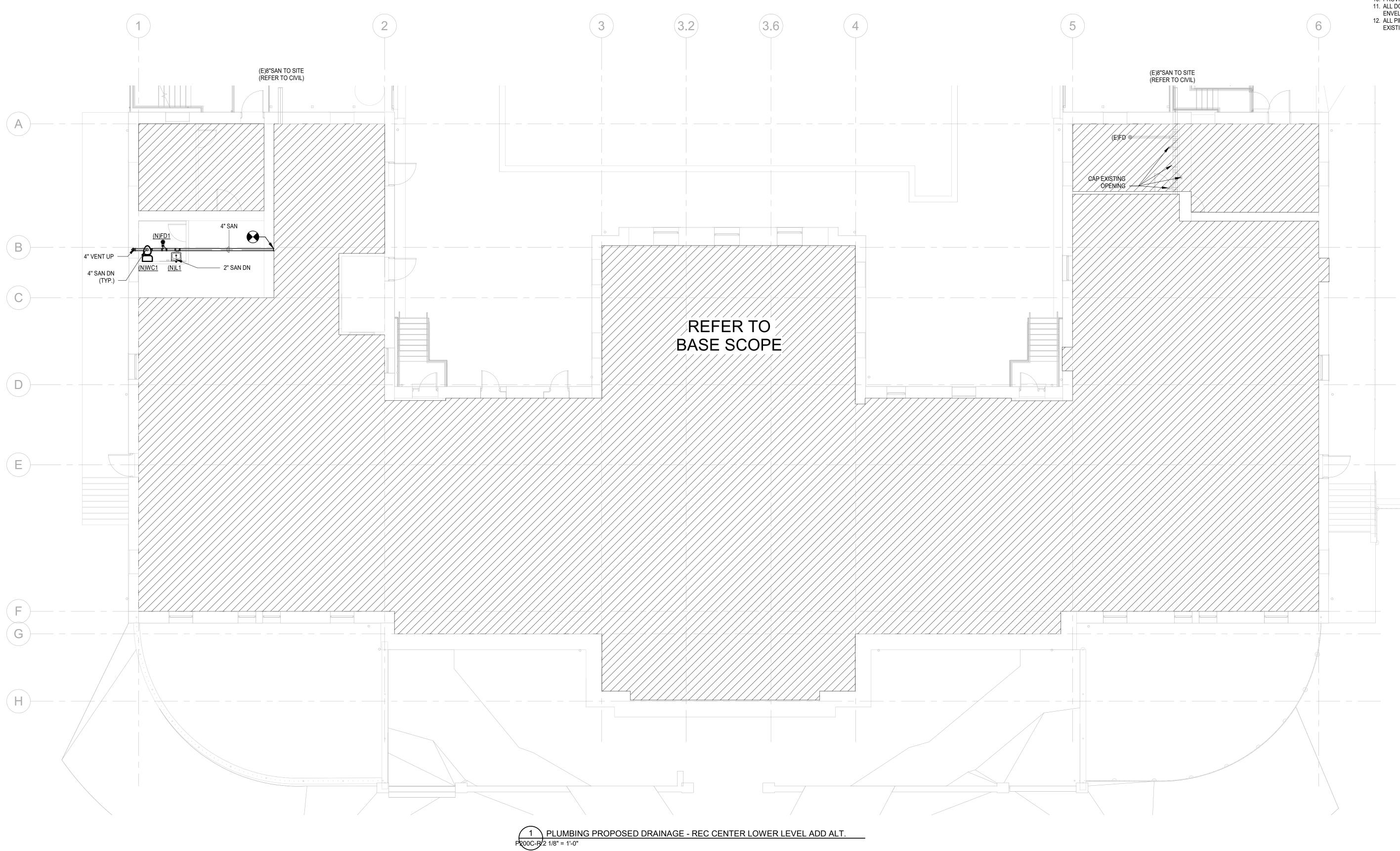
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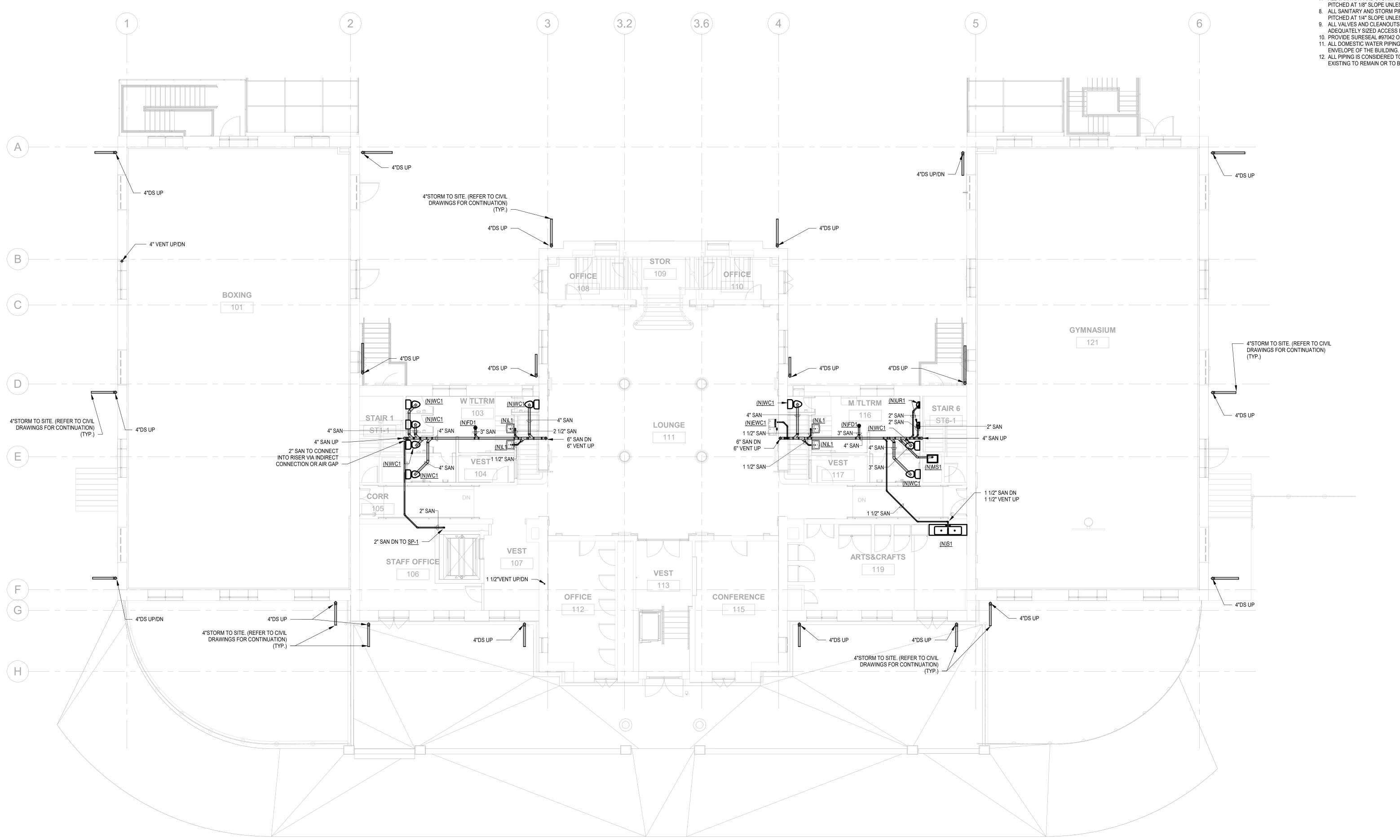
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- DRAWINGS. ALL SANITARY AND STORM PIPING OF 4" IN SIZE OR GREATER SHALL BE PITCHED AT 1/8" SLOPE UNLESS OTHERWISE NOTED.
- 8. ALL SANITARY AND STORM PIPING OF 3" IN SIZE OR SMALLER SHALL BE
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 ALL VALVES AND CLEANOUTS SHALL BE INSTALLED AS ACCESSIBLE WITH ADEQUATELY SIZED ACCESS DOORS.
 PROVIDE SURESEAL #97042 OR EQUAL TRAP PRIMER FOR FLOOR DRAINS.
- 11. ALL DOMESTIC WATER PIPING SHALL BE INSTALLED WITHIN THE THERMAL
- ENVELOPE OF THE BUILDING.
 12. ALL PIPING IS CONSIDERED TO BE NEW UNLESS OTHERWISE IDENTIFIED AS EXISTING TO REMAIN OR TO BE DEMOLISHED.





- REFER TO P-0.1 FOR PLUMBING NOTES, LEGENDS AND ABBREVIATIONS.
 REFER TO SCHEDULES AND PLUMBING DETAILS PERTAINING TO THIS PROJECT.
- CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
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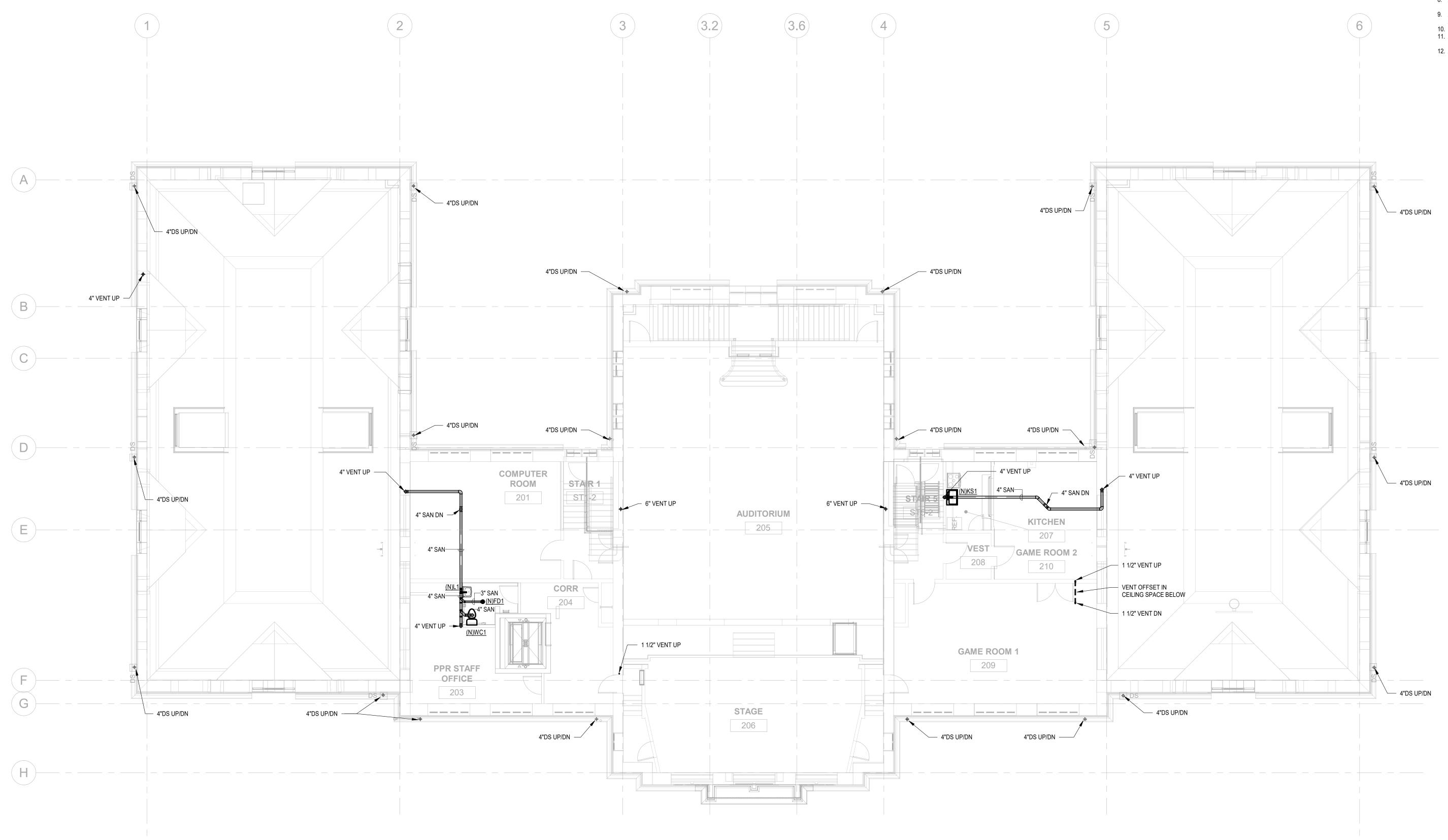






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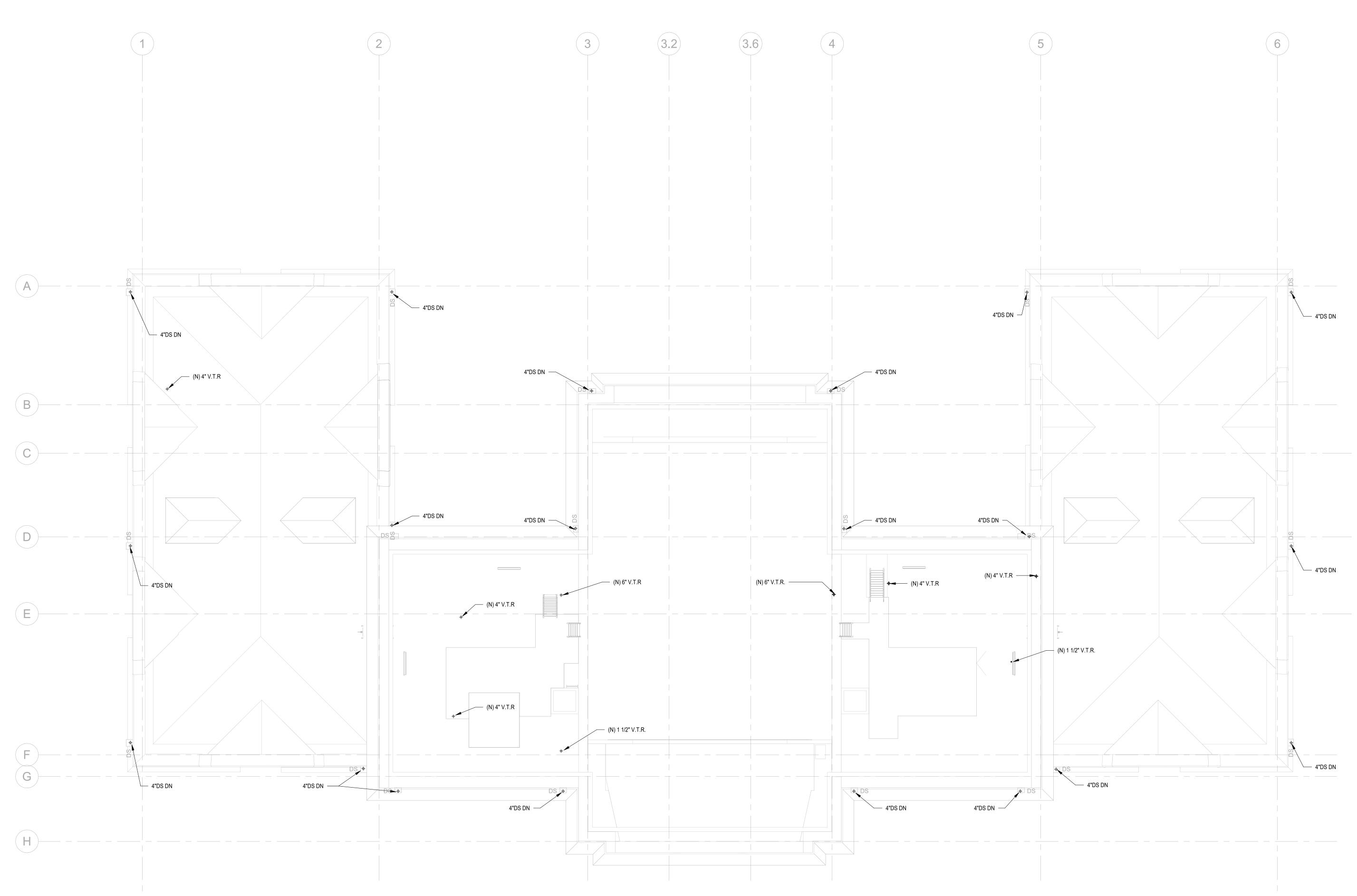




1 PLUMBING PROPOSED DRAINAGE - REC CENTER SECOND FLOOR R202-R2 1/8" = 1'-0"

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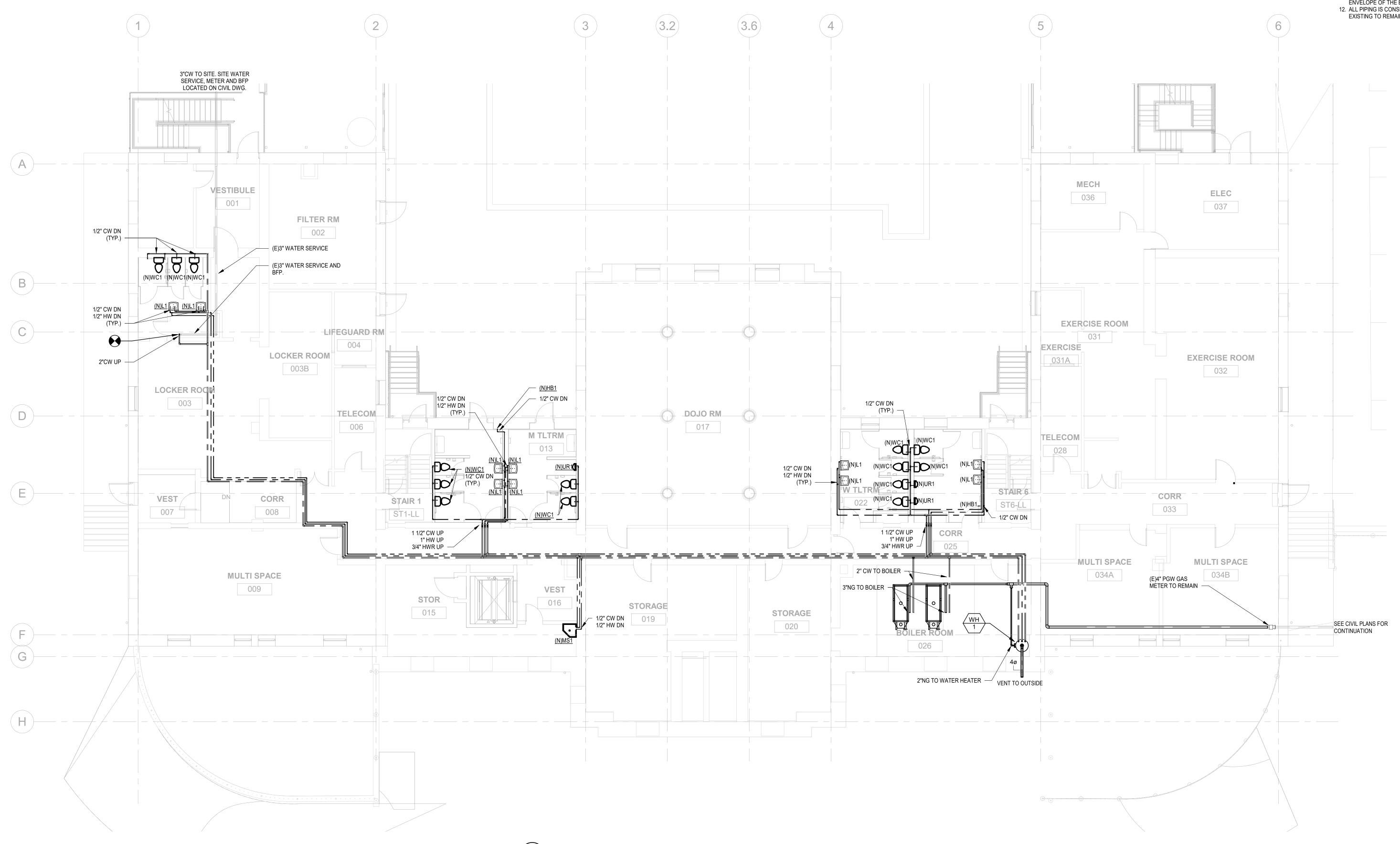


1 PLUMBING PROPOSED DRAINAGE - REC CENTER ATTIC R203-R/2 1/8" = 1'-0"

PLUMBING NOTES:

- REFER TO P-0.1 FOR PLUMBING NOTES, LEGENDS AND ABBREVIATIONS.
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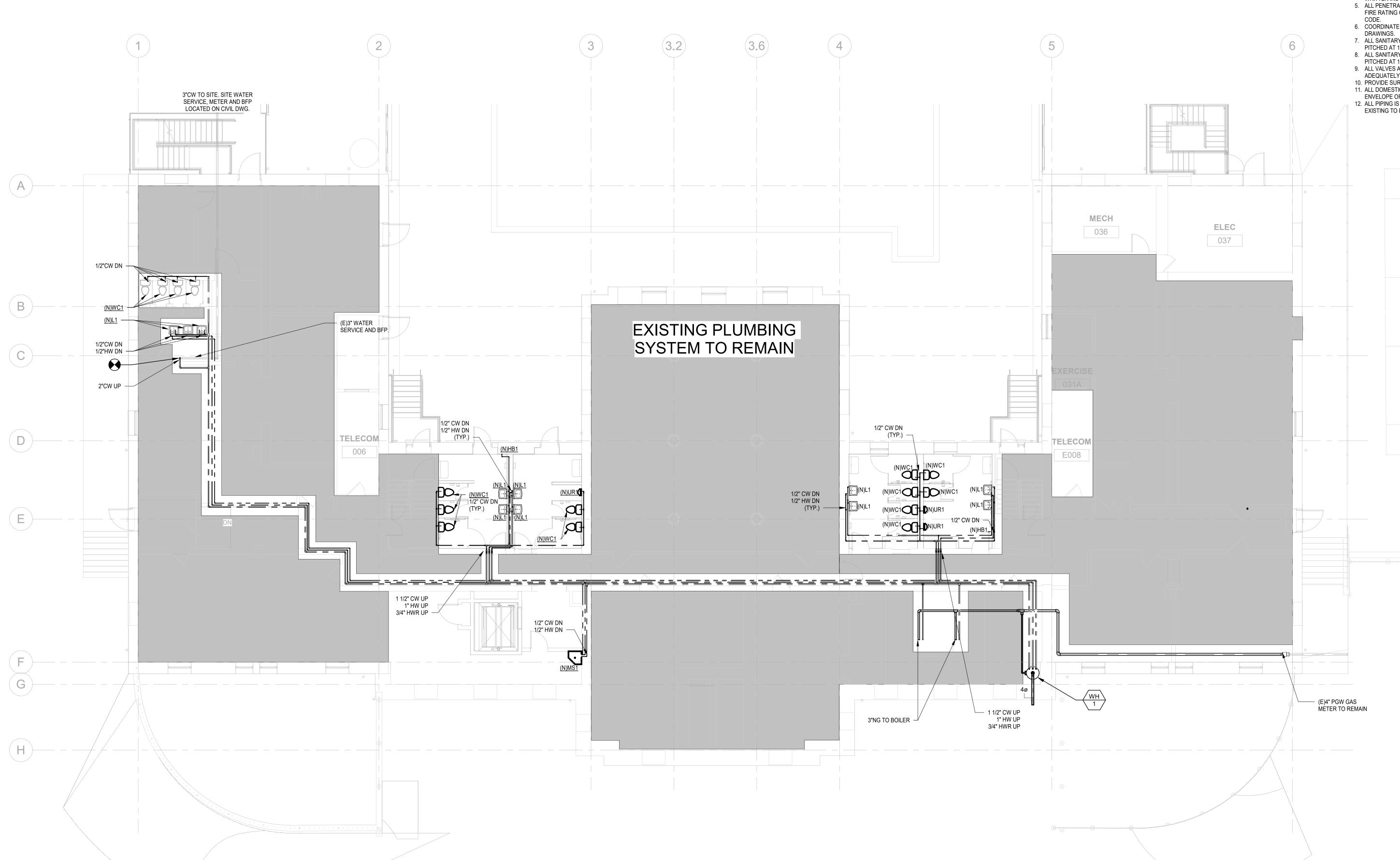


1 PLUMBING PROPOSED SUPPLY - REC CENTER LOWER LEVEL BASE SCOPE R300-R 2 1/8" = 1'-0"

PLUMBING NOTES:

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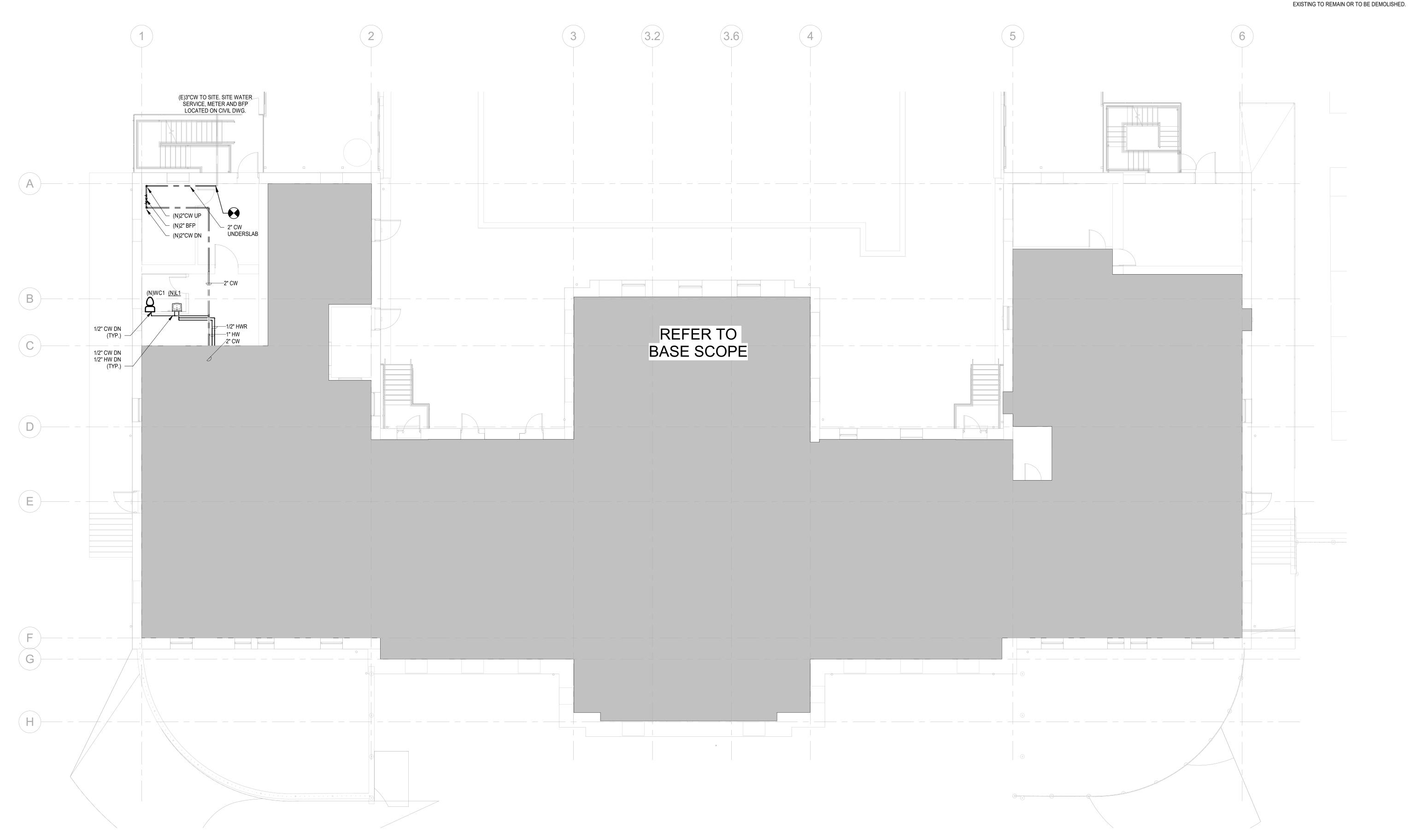


1 PLUMBING PROPOSED SUPPLY - REC CENTER LOWER LEVEL DEDUCT ALT. P800B-R/3 1/8" = 1'-0"

PLUMBING NOTES:

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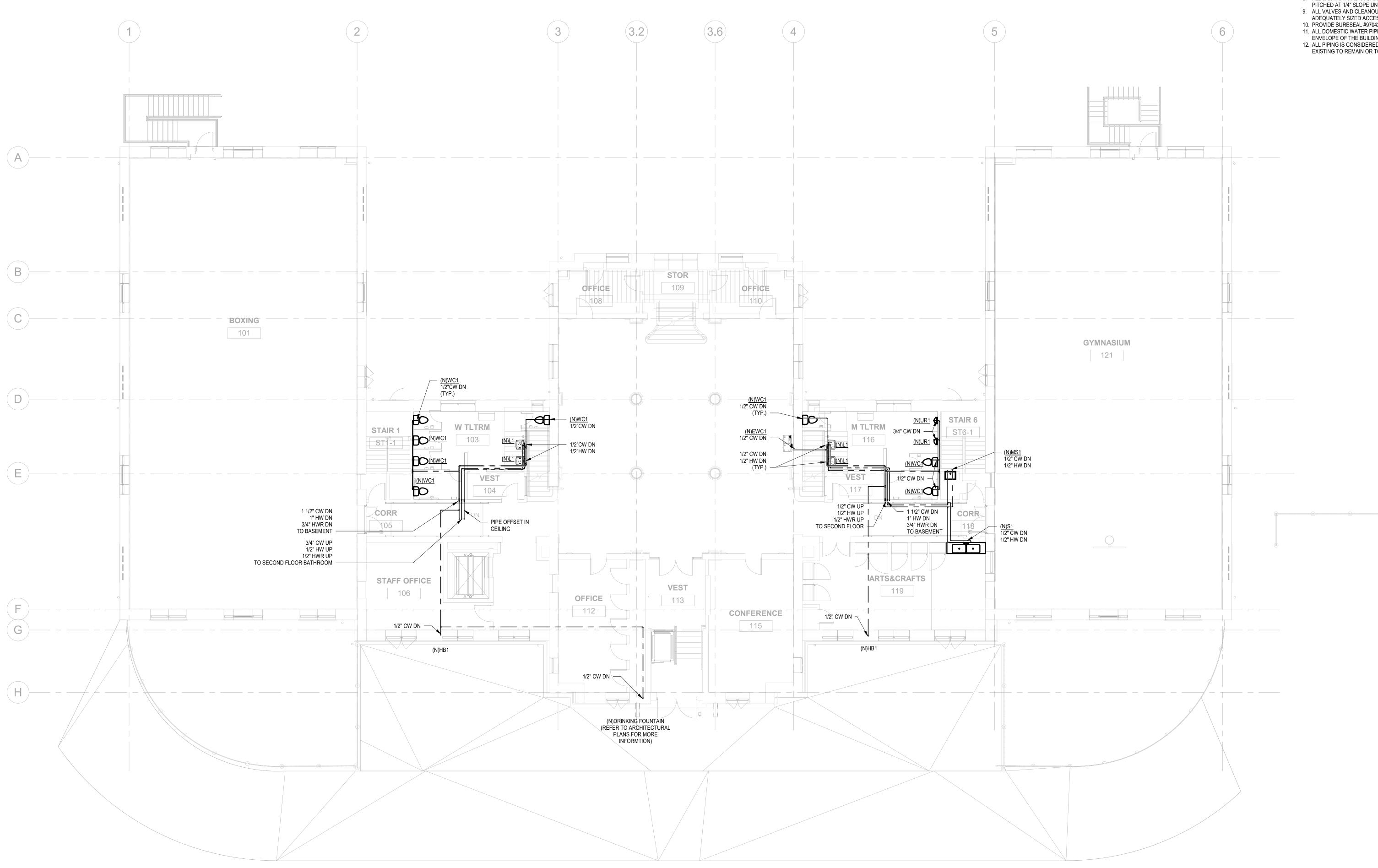


1 PLUMBING PROPOSED SUPPLY - REC CENTER LOWER LEVEL ADD. ALT P800C-R/2 1/8" = 1'-0"

PLUMBING NOTES:

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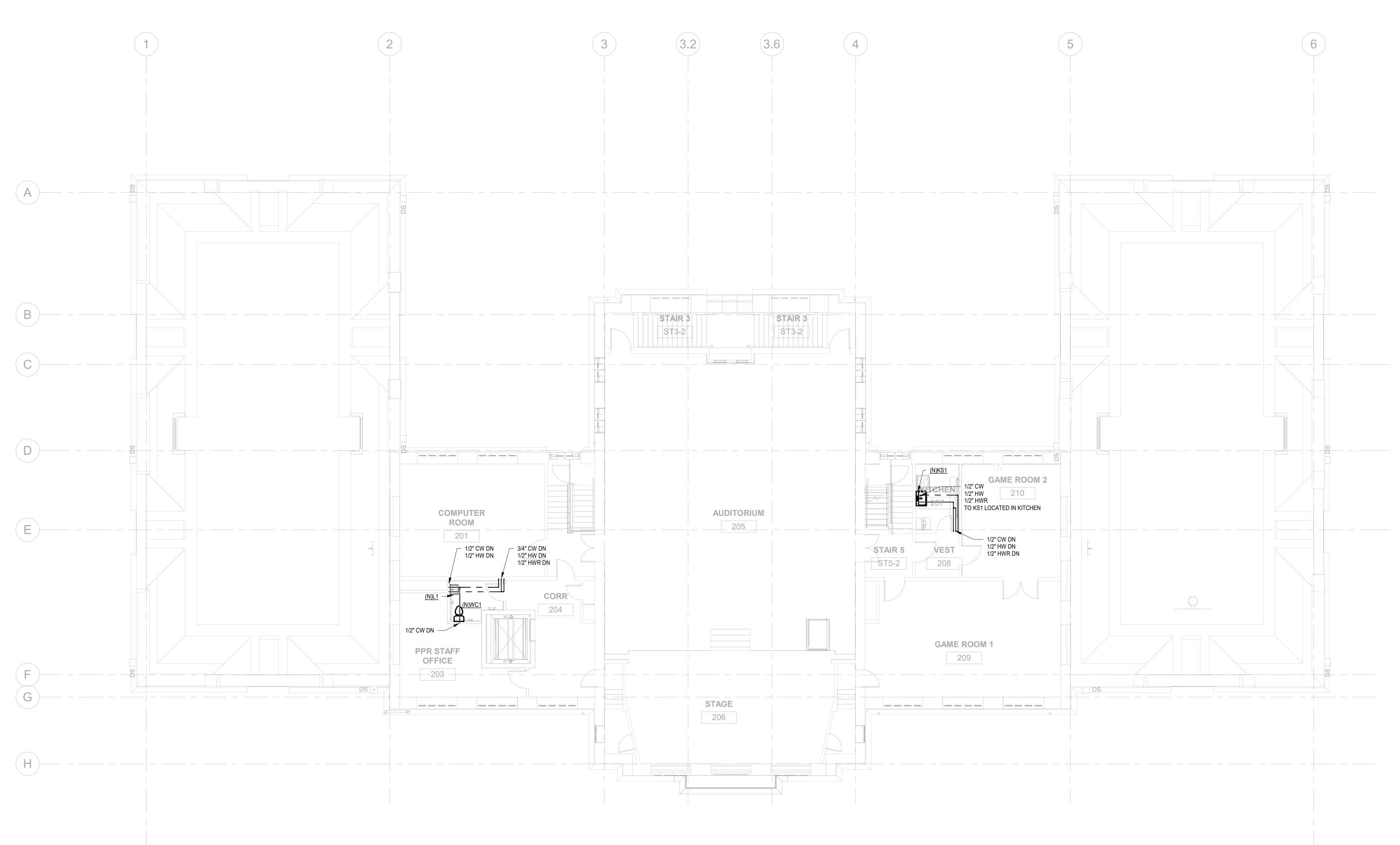


1 PLUMBING PROPOSED SUPPLY - REC CENTER FIRST FLOOR R301-R2 1/8" = 1'-0"

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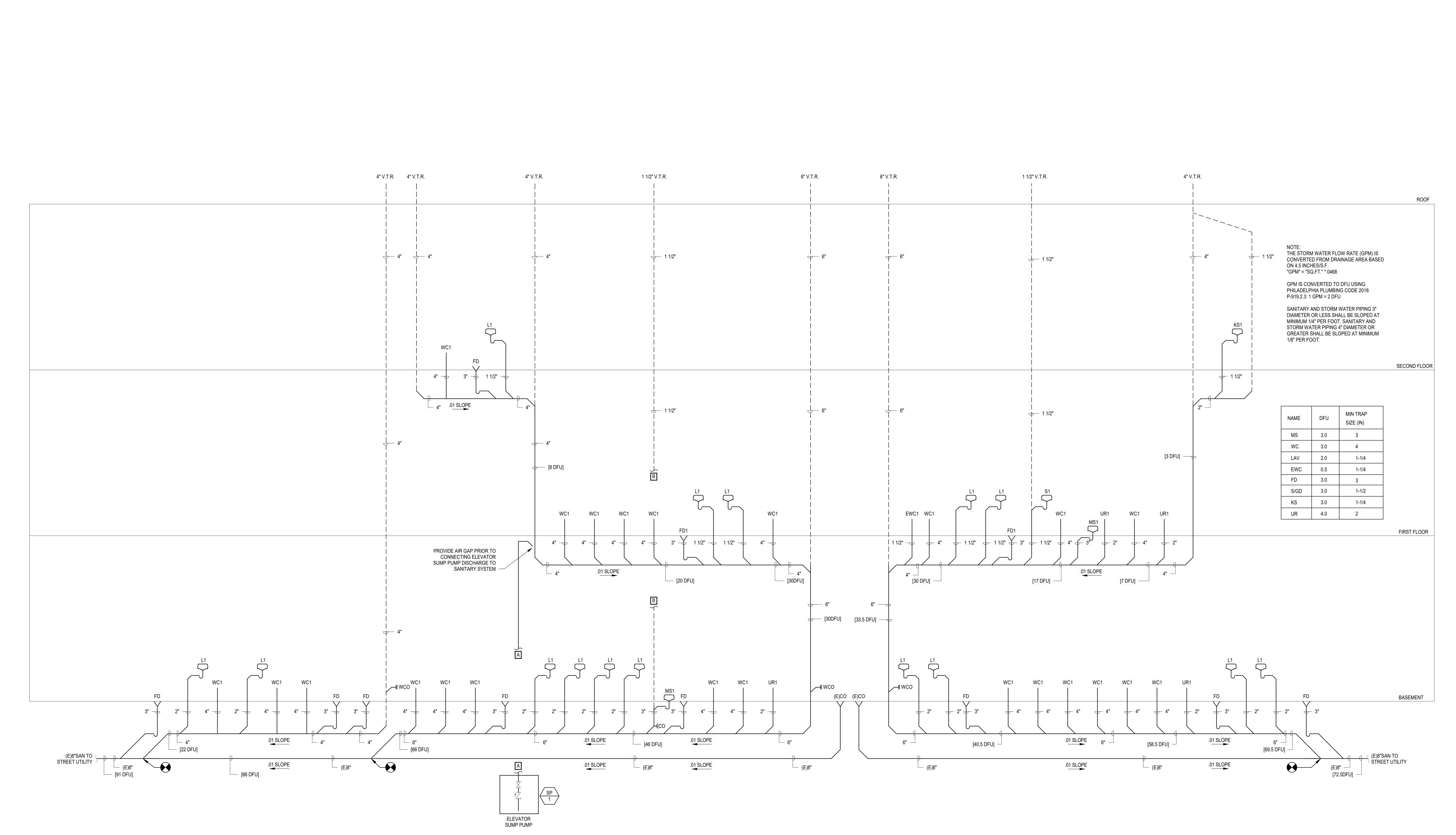


1 PLUMBING PROPOSED SUPPLY - REC CENTER SECOND FLOOR R302-R2 1/8" = 1'-0"

PLUMBING NOTES:

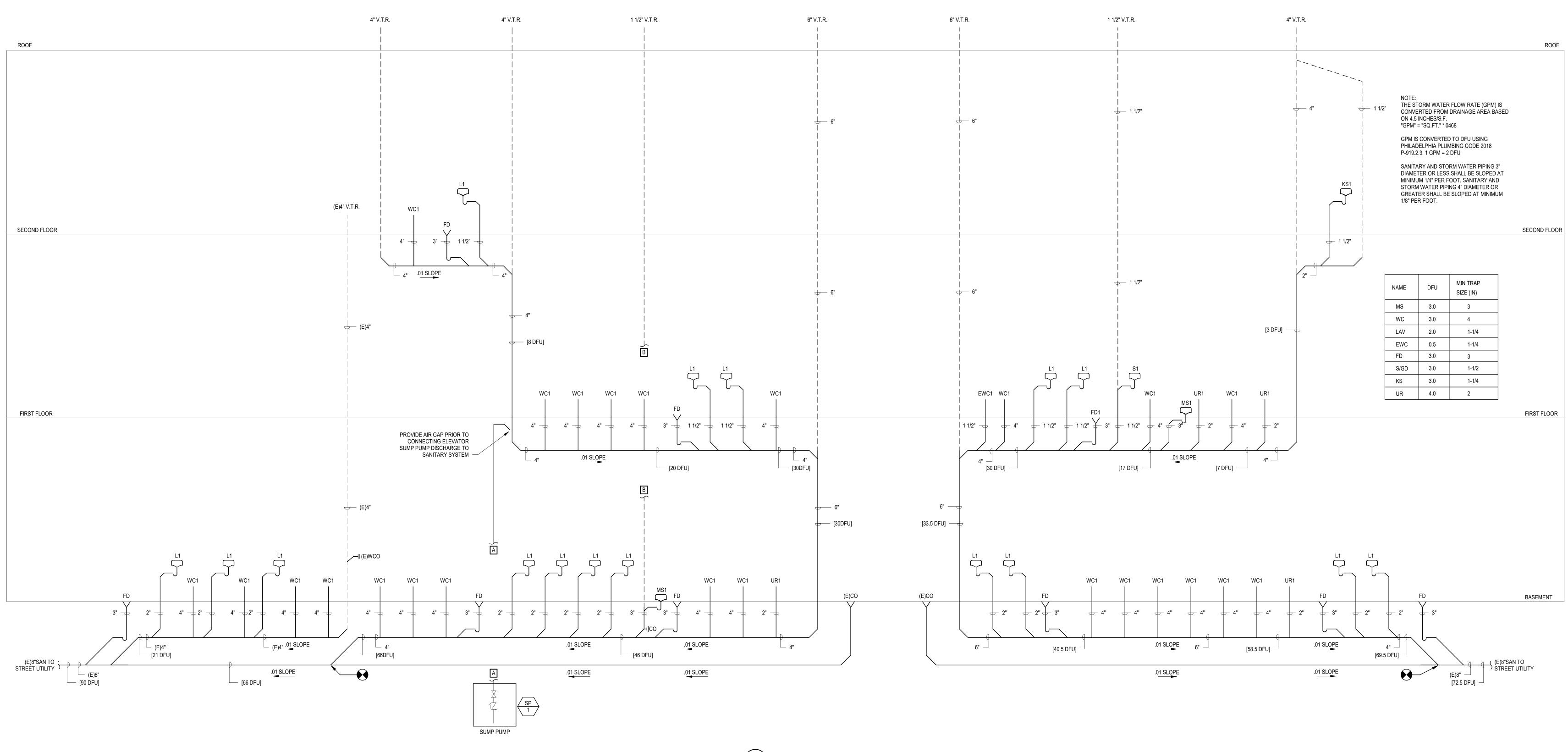
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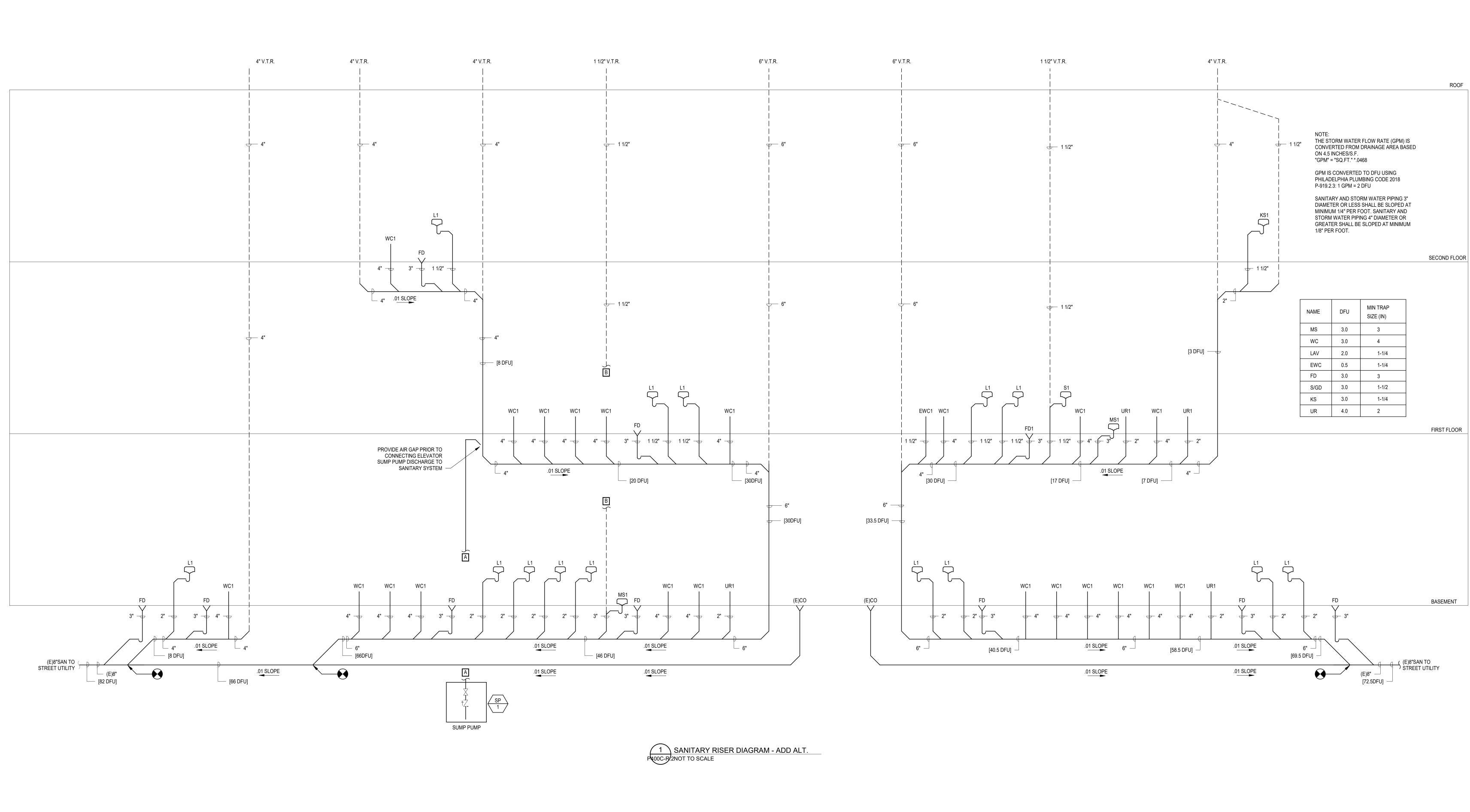
1 SANITARY RISER DIAGRAM - BASE SCOPE R400-R2 NOT TO SCALE



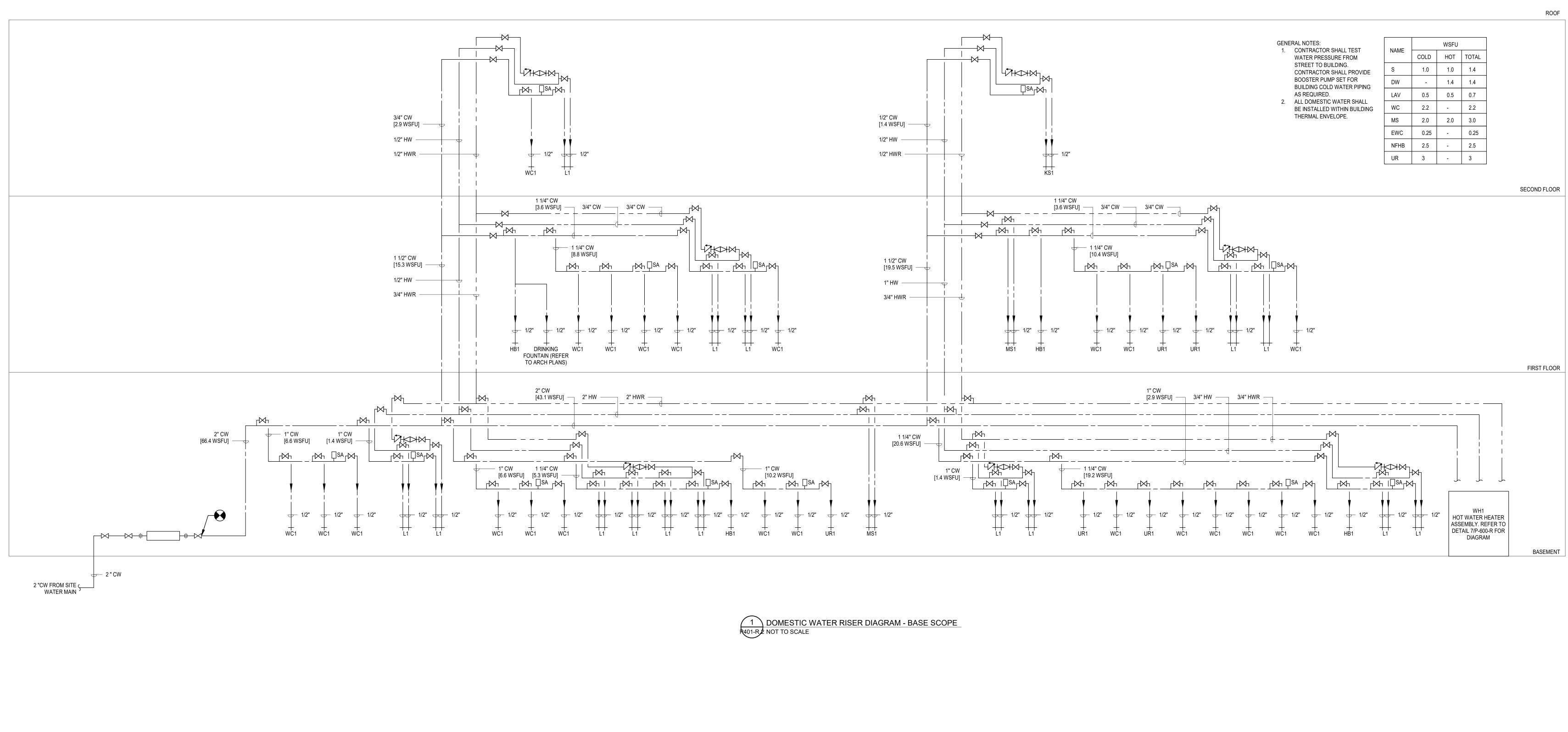


1 SANITARY RISER DIAGRAM - DEDUCT ALT. P400B-R/2NOT TO SCALE

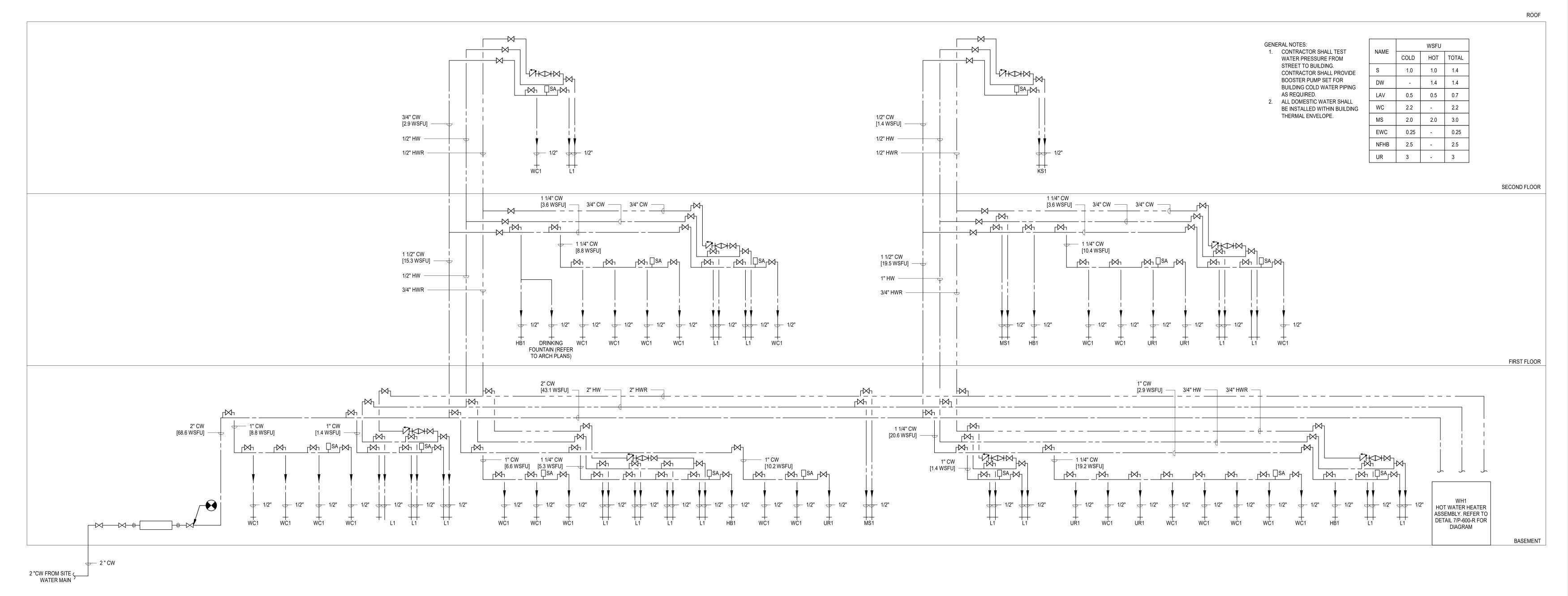






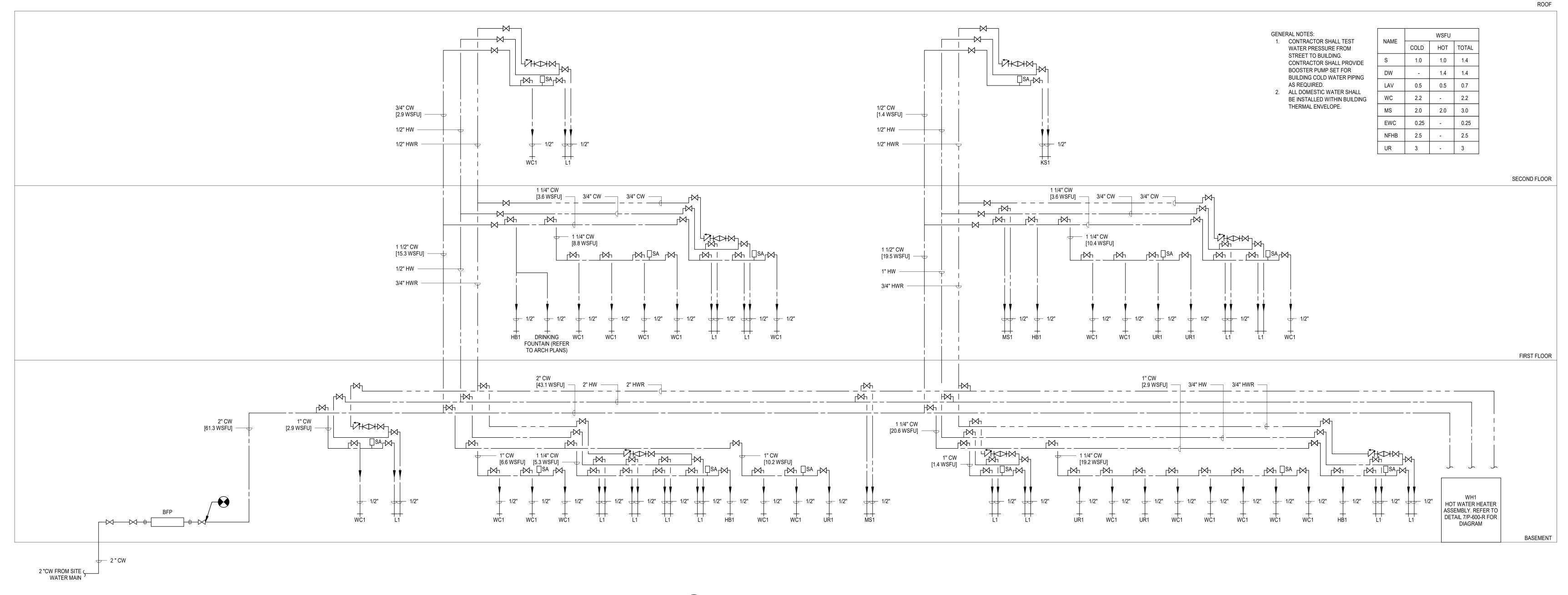






1 DOMESTIC WATER RISER DIAGRAM - DEDUCT ALT. P401B-R/2NOT TO SCALE





DOMESTIC WATER RISER DIAGRAM - ADD ALT. P101C-B2NOT TO SCALE



SERVICE	SANITA	ARY/VENT/STORM	SANITA	ARY/VENT/STORM
LOCATION TEMPERATURE	UN	IDERGROUND	AB	OVE GROUND
	PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS
PIPE MATERIALS	2'' & UP	ASTM A74, CISPI 310, C564 CAST IRON SOIL PIPE - HUB AND SPIGOT, NEOPRENE GASKET	1 1/4'' & UP	ASTM A888, CISPI 310 CAST IRON SOIL PIPE - HUB AND SPIGOT, STAINLESS STEEL CLAMPS
	FITTINGS	HUB AND SPIGOT	FITTNGS	DWV HUBLESS
MAX. OPERATING PRESSURE	-		-	
SEAMLESS/ERW		SEAMLESS		SEAMLESS
-		-		-
	PIPE SIZE	INSULATION THICKNESSS (STORM ONLY)	PIPE SIZE	INSULATION THICKNESSS (STORM ONLY)
PIPE MINIMUM INSULATION	2"	1"	1-1/4" - 2"	1''
THICKNESS	2-12/" - 4"	1"	2-1/2" - 4"	1''
	6"	1"	6''	1"
	8"	1"	8"	1"
INSULATION TYPE		-		-
JACKET		-		-

PIPE VALVES NOTES:

WEATHERPROOFING

MAXIMUM K-VALUE

1. CONTRACTOR SHALL FOLLOW ALL REQUIRED LISTINGS & MANUFACTURES INSTALLATION REQUIREMENTS IN ORDER TO MAINTAIN ALL WARRANTIES 2. JOIN HUBLESS CAST-IRON SOIL PIPING AND FITTINGS ACCORDING TO CISPI 301 AND CISPI'S 'CAST IRON SOIL PIPE AND FITTING HANDBOOK' FOR HUBLESS-COUPLING JOINTS. 3. HUBLESS COUPLINGS SHALL BE, HEAVY-DUTY, CLASS 1, ASTM C-1540, ALL STAINLESS STEEL, NEOPRENE GASKET, 3/8" HEX-HEAD SCREW & 80 LBS, INSULATION TORQUE.

ISOLATION/THROTTLE

-

-

NONE

PIPE SIZE

-

-

-

PLUMBING FIXTURE SCHEDULE

	F	IXTURES			R	DUGH IN	IS		SUPPORTS, CARRIERS		
NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	IW	SAN	V	CW	HW	TYPE	MFR & MODEL NO.	SUPP
WC1	WATER CLOSET	AMERICAN STANDARD	MADERA 2857.128.020		4''	2"	1/2''	-	FLOOR MOUNTED	-	VITREOUS CHINA WITH 1.28 GPF, ONLY FLUSH AN 5901110T.020.
WC2	WATER CLOSET	AMERICAN STANDARD	EDGEMERE 204AA.104		4''	2"	1/2''	-	FLOOR MOUNTED	-	VITREOUS CHIN/ WITH 1.28 GPF, ONLY FLUSH AN 5901110T.020.
UR1	URINAL	AMERICAN STANDARD	WASHBROOK 6590503.020		2''	1-1/2"	1/2''	-	WALL-MOUNTED	-	VITREOUS CHINA MANUAL FLUSH
L1	LAVATORY	AMERICAN STANDARD	LUCERNE 0355.012.020		1-1/2''	1-1/2"	1/2''	1/2''	WALL-MOUNTED	J.R. SMITH	VITREOUS CHIN/ OVERFLOW. (20 CONTRACTOR TO 7385.003 FAUCE HANDLE. MANU INCLUDED.
MS1	MOP SINK	MUSTEE	63M		3"	1-1/2''	1/2"	3/4"	FLOOR-MOUNTED	-	FLOOR MOUNTE MOLDED CONST FAUCET #63.600 HANGER #63.600 BUMPERS 363.4
EWC1	ELECTRIC WATER COOLER	OASIS	PG8SBFSL		1-1/2"	1-1/2"	1/2''	-	WALL HUNG	-	REFRIGERATED I ACTIVIATION SP FILTERED. PROV
HB1	HOSE BIBB	J.R. SMITH	5509QT		-	-	1/2''	-	WALL HUNG	-	BACKFLOW PREV
KS1	SINK	AMERICAN STANDARD	18SB.10321800.075		1-1/2"	1-1/2"	1/2"	1/2"	COUNTERTOP MOUNTED	-	23x18 SINGLE BO STANDARD 4931 PROVIDE PROFL PROFLO PFTPB1 SUPPLY KIT. PRC REFER TO ARCHI
S1	SINK	AMERICAN STANDARD	18DB.10332200.075		1-1/2"	1-1/2"	1/2"	1/2"	COUNTERTOP MOUNTED	-	33x22 DOUBLE E STANDARD 4931 PROVIDE PROFL PROFLO PFTPB1 SUPPLY KIT. PRC REFER TO ARCHI

PLUME	BING SPECIALITY EQUIF	MENT SCHEDULE	Ē	
NO.	DESCRIPTION	MANUFACTURER	MODEL	ACCESSORIES AND/OR NOTES
FD1	FLOOR DRAIN	JAY R. SMITH	2005Y-A-P050	ROUND TOP, CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HI
SA1	SHOCK ABSORBER	JOSAM	#75001-S	SHOCK ABSORBER WITH WROUGHT COPPER SHELL, HYDRO-PNEUMATIC AIR CUSHION, PISTON, WROUGHT COPPER ADAPTER AND MALE THREADED CONNECTION.
FCO	FLOOR CLEANOUT	JAY R. SMITH	4020 SERIES	CAST IRON BODY WITH ROUND ADJUSTABLE SCORIATED SECURED ROUND NICKEL BRO
WCO	LINE CLEAN OUT	JAY R. SMITH	4710 SERIES	STAINLESS STEEL SHALLOW COVER WITH CENTER SCREW.

WATER HEATER SCHEDULE

FIXTURE	MANUFACTU	IRER AND MODEL NO.	STORAGE CAPCITY (Gallons)	RECOVERY CAPACITY	FIRST HO GPH		ELECTRIC GAS REQUIREN		APPROX DIMEN		LOCATION
	MFR:	BRADFORD WHITE		GPH: 261	GPH:	361	CFH:	199	HEIGHT:	60''	
WH1		EE 100T 100E 2N/A)	100	°F RISE: 90		00	VOLT:	120		20 1/4"	BASEMENT
	MODEL NO: EF-100T-199E-3N(A)		FRISE, 90		°F RISE: 90		PHASE:	1ø	WIDTH: 28-1/4"		

				SUMP PUN	NP SCHEE	DULE			
FIXTURES	MANUFACTURER AND MODEL NO.	SYSTEM CAPACITY	PI	JMP				MO	TOR
	STANCOR		SUCTION PRESSURE	DISCHARGE PRESSURE	# OF MOTORS	MOTOR HP	MOTOR RPM	V/PH/HZS	NOTES
SP1	SE-50	50 GPM	-	20 FT HD	1	1/2	3600	120/3/60	PUMP SHALL BE OIL MINDER OR INCLUDE FEATUR TO SHUT OFF IN DETECTION OF OIL, PROVIDE CHECK VALVE

N	ATURAL GAS	DOMES	TIC COLD WATER	DOMESTIC HOT WATER		
INDO	ORS/OUTDOORS		INDOORS	INDOORS		
	-		40-80 F		80-140 F	
PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS	PIPE SIZE	MATERIAL/JOINTS	
3/4"-3"	ASTM A53 SCH 80 STEEL/THREADED	1/2" - 4"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	1/2" - 4"	ASTM B88 HARD-DRAWN TYPE L COPPER/ANSI B16.22 SOLDER 95/5TA SOLDERED	
4'' & UP	ASTM A53 SCH 40 SEAMLESS STEEL/ANSI B16.9 BUTT WELD	-	-	-	-	
-	-	-	-	-	-	
	150 PSIG		150 PSIG		150 PSIG	
	SEAMLESS		SEAMLESS	SEAMLESS		
	-		-		-	
PIPE SIZE	INSULATION THICKNESSS	PIPE SIZE	INSULATION THICKNESSS	PIPE SIZE	INSULATION THICKNESSS	
3/4" - 1-1/2"	-	3/4" - 1-1/2"	1"	3/4" - 1"	1"	
2" - 4"	-	2" - 4"	1"	2" - 4"	1"	
6''	-	6''	1-1/2"	6''	1-1/2''	
8'' & UP	-	8'' & UP	1-1/2"	8'' & UP	1-1/2''	
-	-	-	-	-	-	
	-	MOLE	DED FIBERGLASS	MOL	DED FIBERGLASS	
	-		ASJ		ASJ	
YELLOW A	NTI-COROSION PAINT	0.016 ALUMIN	IUM (OUTDOORS ONLY)	0.016 ALUMI	NUM (OUTDOORS ONLY)	
MAX PRESSU	JRE DROP - 0.3 in W.C.	Kmax = 0.23 A	T 60 DEG F MEAN TEMP	Kmax = 0.24 A	AT 120 DEG F MEAN TEMP	
PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE	PIPE SIZE	ISOLATION/THROTTLE	
3/4" - 2"	GATE VALVE/GLOBE VALVE	3/4" - 3"	BALL VALVE/BALL VALVE	3/4" - 3"	BALL VALVE/BALL VALVE	
2-1/2" & UP	GATE VALVE/GLOBE VALVE	4'' & UP	BUTTERFLY VALVE/BALL VALVE	4'' & UP	BUTTERFLY VALVE/BALL VALVE	
-	-	-	-	-	-	

NONE

ISOLATION/THROTTLE

-

-

PIPE SIZE

-

-

-

ACCESSORIES AND OR NOTES
ES, DRAINS, TRAPS, TOILET SEATS ETC.
ELONGATED FLOOR MOUNTED WATER CLOSET
LUSHVALVE. CONTRACTOR TO PROVIDE MANUAL
AMERICAN STANDARD ELGONATED SEAT
ELONGATED FLOOR MOUNTED WATER CLOSET
ANK TYPE. CONTRACTOR TO PROVIDE MANUAL
AMERICAN STANDARD ELGONATED SEAT
WHITE, 0.125 GPF HIGH EFFICIENCY WITH
ALVE.
RECTANGLE WALL MOUNT LAVATORY WITH
(18") CONTRACTOR TO PROVIDE HANGERS.
PROVIDE AMERICAN STANDARD RELIANT 3
WITH 0.5 GPM, CHROME, CENTER SET, SINGLE
L FAUCET ONLY, ASSE 1070 VALVE TO BE

ITED, 24''X24''X10'' (HIGH) DURASTONE ONE PIECE NSTRUCTION. FURNISH COMLETE WITH SERVICE SINK 500A. HOSE AND HOSE HOLDER 365.700 AND MOP 600 ATTACHED TO 3"X24" S.S WALL PLATE, 3.401 AND DURAGAURD WALL GUARDS #67.2424. D DRINKING FOUNTAIN WITH MECHANICAL SPORTS BOTTLE FILLER, BI-LEVEL, ADA, 8 GPH, NON-OVIDE GREYSTONE FINISH. REVENTER, STAINLESS STEEL CASE AND KEY

BOWL STAINLESS STEEL SINK, 1 HOLE, AMERICAN 931.380.002 PULL DOWN KITCHEN FAUCET, 7. OFLO PFPT107 P-TRAP, PROFLO STRAINER PF1432SS, B100 DRAIN EXTENSION AND PROFLO PFXCAZ32CL12 PROVIDE KITCHEN SINK WITH GARBAGE DISBOSAL CHITECT DRAWINGS. MANUAL FAUCET ONLY.

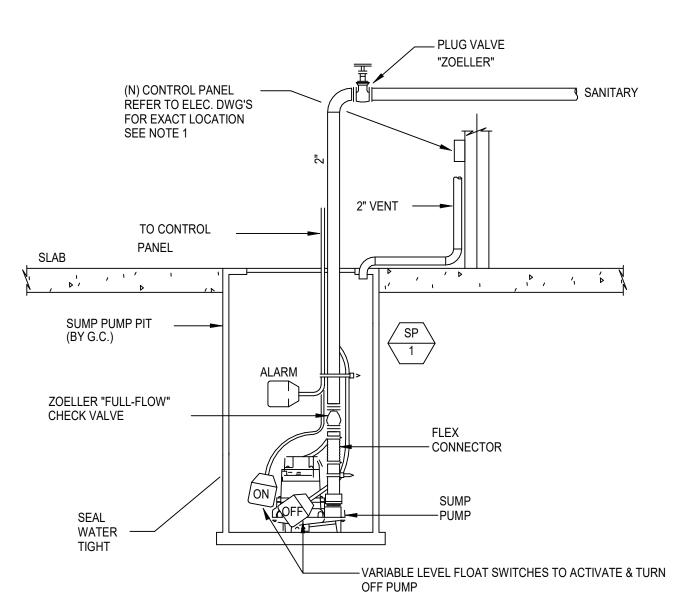
E BOWL STAINLESS STEEL SINK, 1 HOLE, AMERICAN 931.380.002 PULL DOWN KITCHEN FAUCET, 7. OFLO PFPT107 P-TRAP, PROFLO STRAINER PF1432SS, B100 DRAIN EXTENSION AND PROFLO PFXCAZ32CL12 PROVIDE KITCHEN SINK WITH GARBAGE DISBOSAL CHITECT DRAWINGS. MANUAL FAUCET ONLY.

R HEAD. ON, TRIPLE O-RING SEALED BRONZE TOP.

NOTES
SHALL BE OIL MINDER OR INCLUDE FEATUR TO

HANGER SC	HEDULE
STEEL PIPE SIZE	SPACING OF SUPPORTS
1/2''	6'-0''
1/2" TO 1"	8'-0''
1-1/4" & LARGER	10'-0''





1 DETAIL - ELEVATOR SUMP PUMP

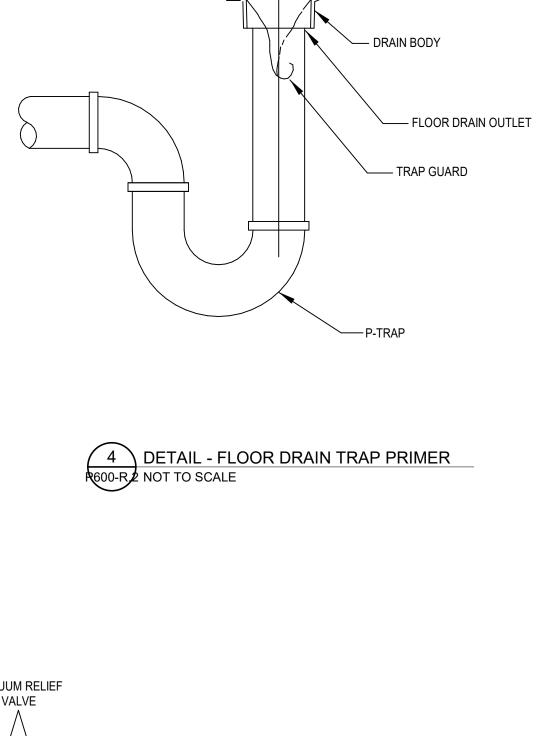
R600-R2 NOT TO SCALE NOTES:

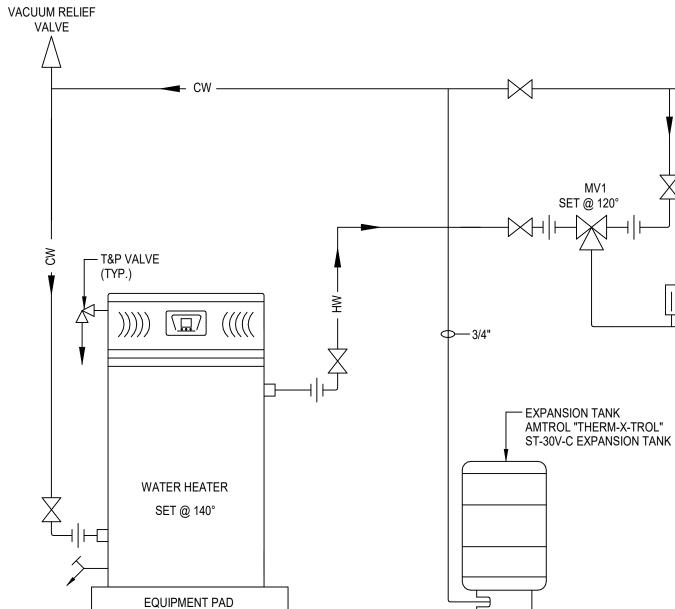
- PLUMBING CONTRACTOR TO COORDINATE LOCATION OF SUMP PUMP CONTROL PANEL WITH THE ELECTRICAL DRAWING'S. PLUMBING CONTRACTOR TO WALL MOUNT CONTROL PANEL WITH THE ELECTRICAL CONTRACTOR MAKING THE FINAL CONNECTIONS.
- PLUMBING CONTRACTOR TO INSTALL A CHECK VALVE ON THE DISCHARGE PIPING AT LEAST 12" ABOVE OUTLET OF THE PUMP.

-FLASHING COLLAR

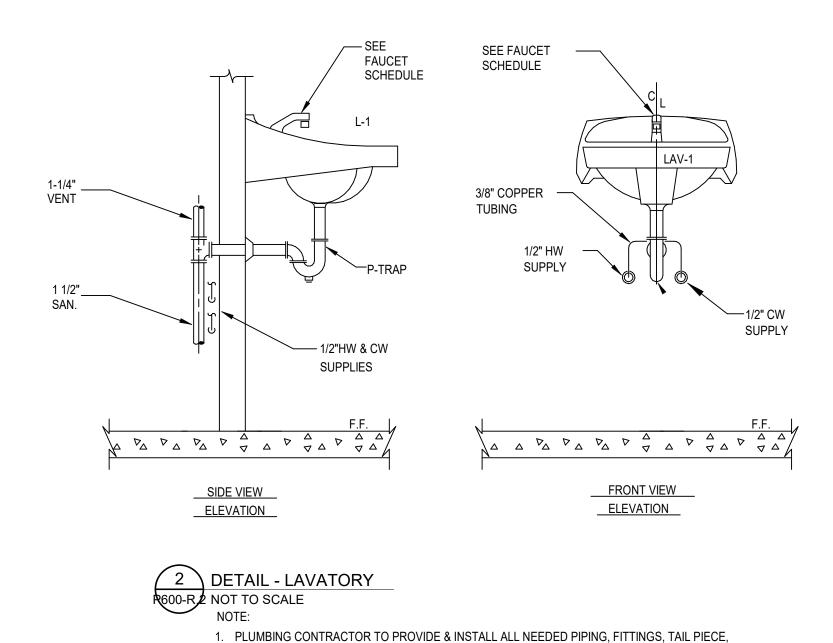
7 1 7

FINISHED FLOOR





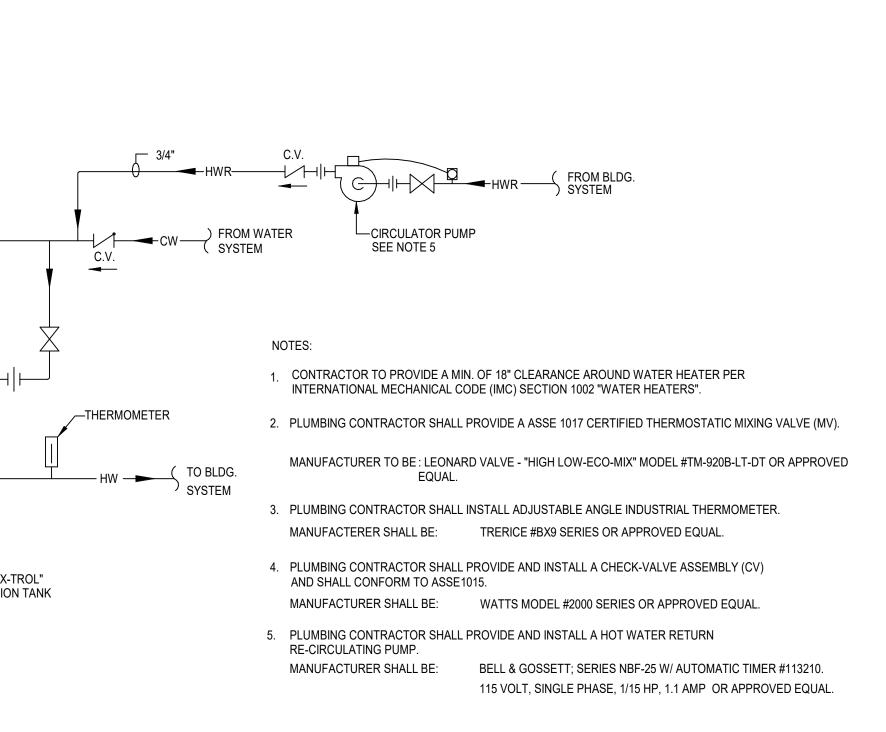
7 DETAIL - TYPICAL WATER HEAT WITH HOT WATER RECIRCULATION



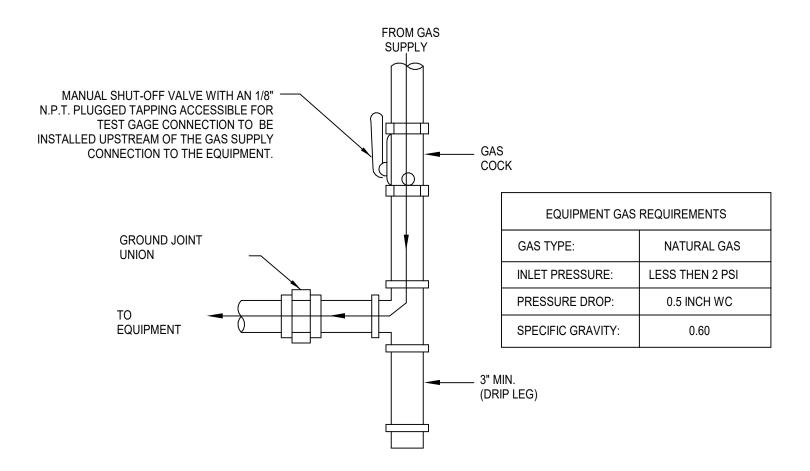
PIPE CHASE -FLUSH VALVE CW SUPPLY -— BACK SPUD NEW WALL MOUNTED — URNIAL ╡ VENT HEADER -----UR-1 UR-1 1 1/2" VENT SANITARY-2" FEMALE HEADER OUTLET CONNECTION - FIXTURE CARRIER 2" N.P.T. FEMALE OUTLET CONNECTION · 47, 'A 7,

> 5 DETAIL - URINAL R600-R 2 NOT TO SCALE

WATER SUPPLIES AND SHUT OFF VALVES FOR A COMPLETE AND FUNCTIONAL SYSTEM.

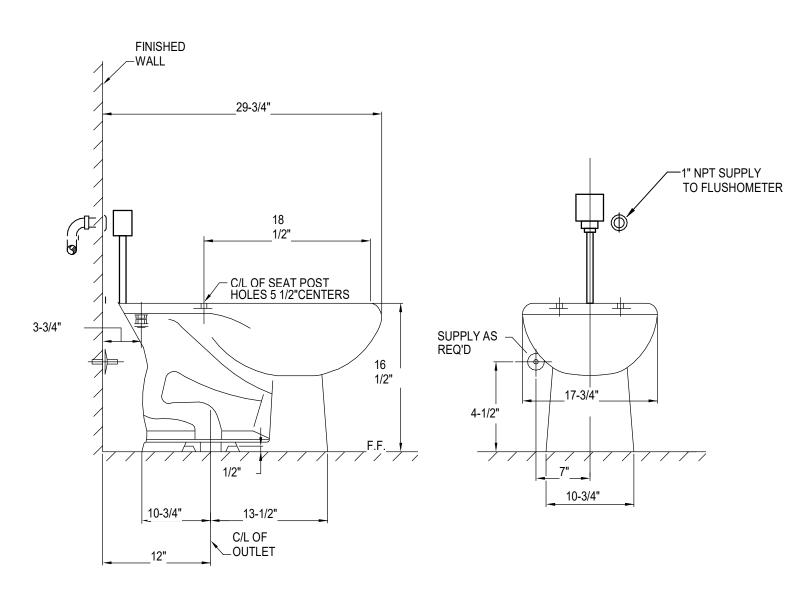


SLAB



3 DETAIL - NATURAL GAS SEDIMENT TRAP R600-R2 NOT TO SCALE NOTE:

> PLUMBING CONTRACTOR TO VERIFY THE GAS PRESSURE BEING SUPPLIED BY NATURAL GAS AUTHORITY AND IF REQUIRED, CONTRACTOR WILL FURNISH IN-LINE TYPE PRESSURE REGULATOR'S AT EQUIPMENT.



6 DETAIL - WATER CLOSET R600-R 2 NOT TO SCALE



GENERAL NOTES

- RENOVATE EXISTING FIRE ALARM CONTROL PANEL AND DEVICES IN AREAS UNDER CONSTRUCTION INDICATED ON THE DOCUMENTS TO PROVIDE A COMPLETE AND FUNCTIONING FIRE ALARM CONTROL SYSTEM. COORDINATE MODIFICATIONS WITH EXISTING FIRE ALARM VENDOR.
- 2. COORDINATE LOCATIONS OF FIRE/SMOKE DAMPERS, DUCT DETECTORS AND REQUIRED SMOKE DETECTORS WITH THE HEATING VENTILATION AND AIR CONDITIONING DOCUMENTS FOR LOCATION AND QUANTITY OF DEVICES.
- 3. MODIFY EXISTING FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA72, MANUFACTURER'S RECOMMENDATIONS, ALL APPLICABLE LOCAL BUILDING CODES AND OWNER'S INSURANCE UNDERWRITER'S REQUIREMENTS.
- 4. FIRE ALARM SYSTEM MATERIALS SHALL BE UL LISTED AND FM GLOBAL APPROVED.
- 5. COORDINATE THE INSTALL OF FIRE ALARM DEVICES AND WIRING WITH ALL TRADES AND DRAWINGS PRIOR TO COMMENCING INSTALLATION.

6. THE CONTRACTOR SHALL CONTACT THE BUILDING ENGINEER AND BUILDING OWNER, TO ARRANGE ACCEPTANCE OF CONSTRUCTION SCHEDULE. THE CONTRACTOR SHALL OBTAIN IN WRITTEN FORM AN ACCEPTANCE OF THE CONSTRUCTION SCHEDULE FOR DEMOLITION AND NEW WORK. THE EXISTING FIRE ALARM SYSTEM DURING THE ENTIRE CONSTRUCTION WORK MUST BE OPERATIONAL. REMOVAL OF OLD DEVICES OR RELOCATION AND RECONNECTION SHALL BE COMPLETED ONE DAY BEFORE SCHEDULED TEST. PROVIDE FIRE WATCHMAN FOR ANY PERIOD OF TIME WHEN THE EXISTING FIRE ALARM SYSTEM IS DOWN WHILE THE BUILDING IS OCCUPIED. ARRANGE FOR TEST AND ACCEPTANCE IN SUCH A WAY THAT THERE WILL BE NO EXTENDED TIME INTERVAL BETWEEN COMPLETION OF CONSTRUCTION AND FIRE ALARM TEST AND APPROVAL.

- 7. MINIMUM CONDUIT SIZE FOR BRANCH FIRE ALARM CIRCUIT SHALL BE 3/4".
- 8. PROVIDE ALL SYSTEM COMPONENTS REQUIRED. PROVIDE COMPONENTS OF THE SAME MANUFACTURER AND MODEL NUMBERS COMPLIANT WITH THE EXISTING FIRE ALARM SYSTEM AS NOTED IN THESE DOCUMENTS.
- 9. INSTALL, TEST AND OBTAIN FIRE MARSHAL APPROVAL OF RENOVATED FIRE ALARM SYSTEM.
- 10. MODIFY EXISTING FIRE ALARM SYSTEM TO MEET AND EXCEED REQUIREMENTS SHOWN IN THESE CONSTRUCTION DOCUMENTS.
- 11. THE SYSTEM SHALL BE CONTINUOUSLY ELECTRICALLY SUPERVISED AGAINST FAILURE OF ANY COMPONENTS, APPLIANCES, WIRING, SWITCHES, ELECTRICAL CONTACTS, ECT. FIRE ALARM CONTRACTOR SHALL DETECT OPENS, SHORTS, ECT. WHICH IMPAIR THE FUNCTION OF THE SYSTEM. BOTH A VISUAL AND AUDIBLE TROUBLE SIGNAL SHALL OPERATE AT THE FIRE ALARM CONTROL PANEL AND FIRE ALARM ANNUNCIATOR PANEL. FIRE ALARM CONTROL PANEL SHALL COMMUNICATE TO CENTRAL STATION VIA COMMUNICATION LINE.
- 12. PROVIDE MINIMUM BATTERY BACKUP FOR FIRE ALARM SYSTEMS AS REQUIRED BY LOCAL CODES AND IN ACCORDANCE WITH NFPA 72.
- 13. NUMBER OF CONDUCTORS, SIZE, TYPE AND COLOR CODE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. INSTALL PER MANUFACTURER'S WIRING DIAGRAMS.
- 14. ALL WIRING SHALL BE INSTALLED IN METALLIC TUBING OR METAL CONDUITS. THE INSTALLATION SHALL BE IN A MANNER WHICH WILL AFFORD THE MAXIMUM PROTECTION AGAINST THE EFFECTS OF FIRE AND OTHER PHYSICAL OR ACCIDENTAL DAMAGE. WIRING SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- 15. POWER SUPPLY AND FIRE ALARM CIRCUIT CONDUCTORS SHALL BE PERMITTED IN THE SAME CABLE, RACEWAY, JUNCTION BOX OR ENCLOSURE ONLY WHERE CONNECTED TO THE SAME EQUIPMENT.
- 16. PROVIDE DUCT SMOKE DETECTORS IN THE AHU RETURN AIR DUCTS AND/OR IN SUPPLY AIR AS INDICATED ON MECHANICAL DRAWINGS AND/OR FIRE ALARM DRAWINGS. PROVIDE INTERLOCK WITH EACH AHU'S SUPPLY AIR FAN MOTOR STARTER AND/OR THE RETURN AIR FAN STARTERS TO SHUT DOWN FANS ON INITIATION OF DUCT SMOKE DETECTOR OR ALARM SIGNAL. ACTIVATION OF DUCT SMOKE DETECTOR SHALL SEND SIGNAL TO FIRE ALARM SYSTEM. ALL DUCT SMOKE DETECTORS INSTALLED NOT IN DIRECT VIEW OR READILY ACCESSIBLE LOCATION SHALL BE INSTALLED WITH REMOTE LED INDICATOR AND TEST FEATURES. THE REMOTE LED INDICATOR WITH TEST SHALL BE INSTALLED ON THE CEILING DIRECTLY BELOW RESPECTIVE DUCT SMOKE DETECTOR OR ON THE WALL WITH DIRECTORY OR PLAN OF SMOKE DETECTOR LOCATION WHERE THERE IS NO CEILING. THE DUCT SMOKE DETECTOR SHALL BE PROGRAMMABLE TO PROVIDE A SUPERVISORY SIGNAL.
- 17. ALL HEAT DETECTORS SHALL BE OF THE FIXED TEMPERATURE TYPE. HEAT DETECTORS INSTALLED IN NORMALLY LOCKED ROOMS SHALL BE PROVIDED WITH A REMOTE LED INDICATOR. THE REMOTE LED INDICATOR SHALL BE INSTALLED ON THE WALL NEAR ACCESS DOOR WITH DIRECTORY OR PLAN OF HEAT DETECTOR LOCATION.
- 18. ALL FIRE ALARM SYSTEM FIELD RELAYS CONTROLLING OR DEACTIVATING ANY DEDICATED SECURITY DEVICES OR POWER CONTROLS DEVICES SHALL BE INSTALLED WITHIN 3 FEET OF THE CONTROL DEVICE.
- 19. THE FOLLOWING SPECIFICATIONS APPLY TO ALL VISUAL ALARMS: a. THE LAMP SHALL BE A XENON STROBE TYPE OR EQUIVALENT
- b. THE COLOR SHALL BE CLEAR OR NOMINAL WHITE (I.E UNFILTERED OR CLEAR FILTERED WHITE LIGHT) c. THE MAXIMUM PULSE DURATION SHALL BE TWO-TENTHS OF ONE SECOND (0.2 SECONDS) WITH A MAXIMUM DUTY CYCLE OF 40 PERCENT. THE PULSE DURATION IS DEFINED AS THE TIME INTERVAL BETWEEN INITIAL AND FINAL POINTS OF 10 PERCENT OF MAXIMUM LIGHT. d. THE INTENSITY WILL BE ADJUSTABLE BETWEEN 15 AND 110 CANDELA AS REQUIRED.
- e. THE FLASH RATE SHALL BE A MINIMUM OF 1 HZ AND A MAXIMUM OF 3HZ.
- 20. REINSTALL AREA SMOKE DETECTORS AS SHOWN ON FLOOR PLANS.
- 21. COORDINATE WORK WITH ELECTRICAL, MECHANICAL OR PLUMBING EQUIPMENT SCHEDULED TO BE INTERLOCKED WITH THE MODIFIED EXISTING FIRE ALARM SYSTEM. PROVIDE ALL RE-PROGRAMMING REQUIRED.
- 22. THE SYSTEM SHALL BE INSTALLED SO THAT TROUBLE CAN BE READILY TRACED TO A SPECIFIC FLOOR AND/OR DEVICE.
- 23. PROVIDE AND ARRANGE THE AUDIBLE AND VISUAL ANNUNCIATION DEVICE CIRCUITS SO THERE SHALL BE A MINIMUM OF TWO CIRCUITS PER ZONE ON EVERY FLOOR AND THAT LOSS OF ONE CIRCUIT WILL NOT AFFECT MORE THAN 50% OF THE DEVICES IN A ZONE.
- 24. MINIMUM CONDUIT SIZE FOR BRANCH FIRE ALARM CIRCUITS SHALL BE 3/4" EMT WITH COMPRESSION FITTINGS. ALL FA WIRING CONDUITS AND FITTINGS MUST BE RED OR PAINTED RED.
- 25. LINE VOLTAGE CIRCUITS AND LOW VOLTAGE CIRCUITS SHALL RUN IN SEPARATE CONDUITS.
- 26. ALL FIRE ALARM CABINETS AND TERMINAL BOXES SHALL BE PAINTED RED.
- 27. PROVIDE ALL SYSTEM COMPONENTS AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY THE MANUFACTURER TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
- 28. ALL FIRE ALARM STROBES IN OPEN AREAS, GARAGES, CORRIDORS, LOBBIES AND RETAIL AREAS SHALL BE SYNCHRONIZED SO THE TOTAL FREQUENCY WILL NOT EXCEED 3HZ IN ANY SINGLE AREA OF VIEW.
- 29. FIRE ALARM CIRCUIT AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC.
- 30. SUBMITTAL FOR FIRE ALARM SHOP DRAWINGS SHALL INCLUDE POINTS LIST WITH ALL ADDRESSES WRITTEN ON THE DRAWINGS (RISER AND FLOOR PLAN) NEXT TO EVERY DEVICE.
- 31. RENOVATED FIRE ALARM MATRIX SHALL MATCH EXISTING.
- 32. FIRE ALARM ABANDONED CABLES SHALL BE REMOVED.
- 33. ALL WIRING SHALL BE COLOR CODED AND LABELED IN EVERY TERMINATION BOX.
- 34. WIRING/CONDUCTOR MATERIAL SHALL BE SOLID OR STRANDED COPPER ONLY.
- 35. NON-POWER LIMITED FIRE ALARM CIRCUIT TYPES NPLFP, NPLFR AND NPLF SHALL NOT BE INSTALLED EXPOSED IN DUCTS OR PLENUMS. THE CABLE TYPE NPLFP MAY BE USED ABOVE SUSPENDED CEILINGS.
- 36. CABLES INSTALLED IN VERTICAL RUNS PENETRATING MORE THAN ONE FLOOR SHALL BE TYPE NPLFR. CABLE SHALL BE SUITABLE FOR RISER OR PLENUM USE. 37. VERTICAL CABLE SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING 18".
- 38. RUNS IN METAL CONDUIT OR RNC PASSING THROUGH A FLOOR OR WALL TO THE HEIGHT OF 7' ABOVE THE FLOOR SHALL BE ADEQUATELY PROTECTED FROM PHYSICAL
- DAMAGE BY THE BUILDING STRUCTURE OR SOLID METAL GUARD. 39. FIRE ALARM WIRING SHALL COMPLY WITH NEC 760.130(B). PLENUM RATED FIRE ALARM WIRING OUTSIDE OF CONDUIT IS ACCEPTABLE IN THE CEILING SPACES ABOVE THE
- OFFICE. FA WIRING SHALL BE IN CONDUIT IN EXPOSED AREAS.
- 40. CONNECT REINSTALLED AND NEW FIRE ALARM DEVICES TO THE EXISTING ZONE WITHIN THAT AREA OF WORK.
- 41. ALL FIRE ALARM DEVICES SHALL BE LOCATED IN CENTER OF CEILING TILES UNLESS NOTED OTHERWISE AND APPROVED.
- 42. BEFORE ANY WORK STARTS, SUBMIT AND OBTAIN APPROVAL FROM THE AUTHORITY HAVING JURISDICTION (AHJ) OF THE INFORMATION, DATA, CALCULATIONS, DRAWINGS AND CATALOG CUTS AS REQUIRED BY NFPA 72 AND OTHER REQUIREMENTS AS MAY BE PROMULGATED BY AHJ.
- 43. PROVIDE ALL SYSTEM COMPONENTS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED BY THE MANUFACTURER.
- 44. PROVIDE DEDICATED 120V, 1PH. 20A CIRCUITS FOR EACH EXTENDER FIRE ALARM PANEL.
- 45. PROVIDE 120V, 20A, 1Ø CIRCUITS TO FEED FACP. DERIVE CIRCUITS FROM EMERGENCY POWER SOURCE AS SHOWN ON THE DRAWING.
- 46. WHERE THERE ARE A NUMBER OF POWER REQUIRING DEVICES, SUCH AS SMOKE DETECTORS, FAN RELAYS, DOOR HOLDERS, STROBE LIGHTS AND SMOKE DAMPER OPERATORS INSTALLED IN A CIRCUIT, GROUP IN NUMBERS SO POWER REQUIRED DOES NOT EXCEED 80% OF MANUFACTURER'S POWER SUPPLY RATING. PROVIDE EXTRA CAPACITY OF POWER SUPPLIES REQUIRED TO FULFILL THAT REQUIREMENT. IN ADDITION PROVIDE EXTRA BRANCH WIRING OR LARGER SIZE WIRING TO ALLEVIATE VOLTAGE DROP. INSTALL ALL DEVICES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- 47. ALL WIRING CONNECTIONS SHALL BE MADE IN TERMINATION CABINETS OR FA DEVICE JUNCTION BOX ONLY. WIRING SPLICES OR T-TAPS ARE NOT ALLOWED.
- 48. END OF LINE RESISTOR WHERE USED SHALL BE INSTALLED IN THE FLOOR TERMINAL CABINET. END OF LINE RESISTOR SHALL BE ADEQUATELY LABELED TO DISTINGUISH FROM OTHER COMPONENTS OF THE FA SYSTEM. THE WIRING CONNECTION SHALL BE POINT TO POINT FROM DEVICE TO DEVICE.
- 49. ALL SMOKE DETECTORS INSTALLED IN NORMALLY LOCKED ROOMS SHALL BE PROVIDED WITH THE REMOTE LED INDICATOR. THE REMOTE LED INDICATOR SHALL BE
- 50. AREA SMOKE DETECTORS SHALL BE PROVIDED WHERE INDICATED ON THE DRAWINGS.
- 51. REFER TO FIRE ALARM SYSTEM MATRIX FOR SEQUENCE OF OPERATION.
- 52. COORDINATE WORK WITH ALL ELECTRICAL, MECHANICAL, OR PLUMBING EQUIPMENT SCHEDULED TO BE INTERLOCK WITH THE NEW FIRE ALARM SYSTEM.
- 53. PROVIDE REQUIRED CLEARANCE AROUND THE PANELS PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND NEC.

INSTALLED ON THE WALL NEAR ACCESS DOOR WITH DIRECTORY OR PLAN OF SMOKE DETECTOR LOCATION.

- 54. THE FIRE ALARM SYSTEM SHALL BE DESIGNED AND INSTALLED SO ANY DAMAGE TO ANY TERMINAL UNIT WILL NOT RENDER MORE THAN ONE CIRCUIT LIMITED TO THE SINGLE ZONE OF THE ELEMENT INOPERATIVE. NO MORE THAN 50% OF FIRE ALARM DEVICES CAN BE INOPERABLE PER ZONE UPON THE CIRCUIT FAILURE.
- 55. PROVIDE 1" CONDUIT FROM FACP TO ELEVATOR MACHINE ROOM FOR CONTROL SIGNAL AND FIRE ALARM INTERFACE. PROVIDE WIRING PER EQUIPMENT SUPPLIER.
- 56. PROVIDE MINIMUM 3/4" CONDUIT AND REQUIRED WIRING FROM FIRE ALARM CONTROL PANEL TO ACCESS CONTROL SYSTEM FOR FIRE ALARM INTERFACE WITH ELECTRIC DOOR LOCKS. ALL STAIR AND OTHER ELECTRIC DOOR LOCKS IN THE PATH OF THE EGRESS SHALL UNLOCK SIMULTANEOUSLY UPON ACTIVATION OF THE FIRE ALARM SYSTEM OR UPON LOSS OF PRIMARY POWER TO THE FIRE ALARM SYSTEM. PROVIDE CONDUIT AND CONTROL WIRING PER EQUIPMENT SUPPLIER REQUIREMENTS. PROVIDE ALL REQUIRED RELAYS, TRANSFORMERS, POWER SUPPLIES AND ALL OTHER DEVICES TO AFFECT AN INTERFACE BETWEEN THE FIRE ALARM AND SECURITY SYSTEM. AN AUXILIARY RELAY CONNECTED TO FIRE ALARM SYSTEM TO UNLOCK DESIGNATED DOORS SHALL BE LOCATED WITHIN 3' OF THE CONTROL DEVICE.
- 57. PROVIDE MINIMUM 3/4" CONDUIT AND REQUIRED WIRING FROM FIRE ALARM CONTROL PANEL TO DOOR HOLDER CONTROLLER FOR FIRE ALARM INTERFACE. PROVIDE CONDUIT AND CONTROL WIRING PER EQUIPMENT SUPPLIERS REQUIREMENTS. ALL DOOR HOLDERS SHALL BE RELEASE SIMULTANEOUSLY UPON ACTIVATION OF THE FIRE ALARM SYSTEM. PROVIDE SMOKE DETECTOR AT EACH SMOKE DOOR WHERE SHOWN ON THE DRAWING. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED RELAYS. TRANSFORMERS, POWER SUPPLIES AND ALL OTHER DEVICES TO AFFECT AN INTERFACE. AN AUXILIARY RELAY CONNECTED TO FIRE ALARM SYSTEM SHALL BE LOCATED WITHIN 3' OF CONTROL DEVICE.
- 58. PROVIDE MINIMUM ¾ CONDUIT AND REQUIRED WIRING FROM FIRE ALARM CONTROL PANEL TO HVAC SHUTDOWN EQUIPEMENT FOR FIRE ALARM INTERFACE. PRIVIDE CONDUIT AND WIRING PER EQUIPMENT SUPPLIER REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED RELAYS. TRANSFORMERS. POWER SUPPLIES AND ALL OTHER DEVICES TO AFFECT AN INTERFACE BETWEEN THE FIRE ALARM SYSTEM AND BUILDING MANAGEMENT SYSTEM. AN AUXILIARY RELAY CONNECTED TO THE FIRE ALARM SYSTEM SHALL BE LOCATED WITHIN 3' OF THE CENTRAL DEVICE.
- 59. PROVIDE EXTERIOR HORN AND VISUAL DEVICE ON EXTERIOR OF THE BUILDING AT LOCATION OF FIRE DEPARTMENT ACCESS. COORDINATE EXACT LOCATION WITH DIRECTOR OF FACILITIES AND FIRE MARSHALL.

GENERAL SYMBOLS

\sim		F	MANUAL FIRE PULL
	POINT OF CONNECTION (NEW TO EXISTING)	FACP	FIRE ALARM CONTR
~~	EXTENT OF DEMOLITION	FAA	REMOTE FIRE ALAR
	POINT OF CONNECTION TO EQUIPMENT SUPPLIED BY CONTRACTOR	NAC	NOTIFICATION APPL
	CENTERLINE	FATD	FIRE ALARM AUTOM
Ø	DIAMETER	TS	SPRINKLER TAMPER
_\{	BREAK LINE (SINGLE LINE)	FS	SPRINKLER FLOW S
v ,			AUDIBLE NOTIFICAT
		$\langle H \rangle \langle \downarrow \rangle$	HEAT DETECTOR
EQP #	EQUIPMENT TAG - SEE EQUIPMENT DATA SHEET: EQPM = EQUIPMENT ABBREVIATION # = EQUIPMENT NUMBER	$\langle s \rangle \langle s \rangle$	SMOKE DETECTOR
??	DETAIL BUBBLE:	$\langle \mathbf{S} \rangle_{B}$	BEAM STYLE SMOKE
?	1 = DENOTES DETAIL NUMBER # = DENOTES DRAWING NUMBER OF DETAIL LOCATION	$\langle \mathbf{D} \rangle \langle \mathbf{S} \rangle$	DUCT DETECTOR
? ?	SECTION CUT ARROW: A = DENOTES SECTION IDENTIFICATION	co	CARBON MONOXIDE
?	# = DENOTES DRAWING NUMBER OF SECTION DETAIL	承	HORN STROBE
		Å	STROBE
		CM	CONTROL MODULE

CODE COMPLIANCE

IBC 2021 INTERNATIONAL BUILDING CODE

NFPA 70 2020 NATIONAL ELECTRIC CODE

NFPA 72 2022 NATIONAL FIRE ALARM CODE NFPA 90A 2022 STANDARD FOR THE INDTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEM

NFPA 101 2021 LIFE SAFETY CODE

FIRE ALARM SYMBOLS

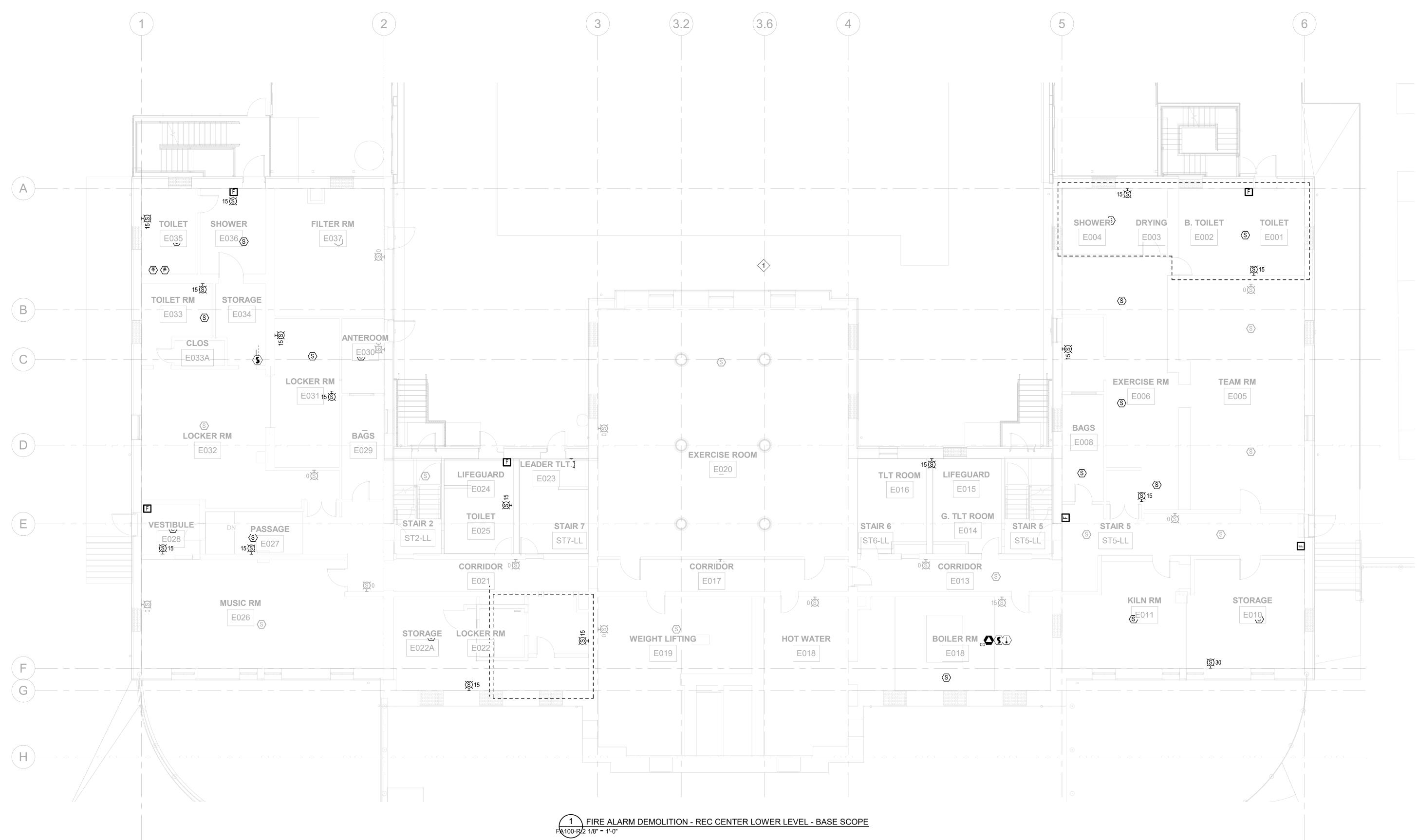
MANUAL FIRE PULL BOX
FIRE ALARM CONTROL PANEL
REMOTE FIRE ALARM ANNUNCIATOR
NOTIFICATION APPLIANCE CIRCUIT PANEL
FIRE ALARM AUTOMATIC TELEPHONE DIALER
SPRINKLER TAMPER SWITCH
SPRINKLER FLOW SWITCH
AUDIBLE NOTIFICATION EQUIPMENT
HEAT DETECTOR
SMOKE DETECTOR

OKE DETECTOR

KIDE DETECTOR

SHEET NUMBER	
FIRE ALARM	DRAWING TITLE
FA001-R.2	FIRE ALARM INDEX SHEET
FA100-R.2	FIRE ALARM DEMOLITION - LOWER LEVEL BASE SCOPE
FA100B-R.2	FIRE ALARM DEMOLITION - LOWER LEVEL DEDUCT ALT.
FA101-R.2	FIRE ALARM DEMOLITION - FIRST FLOOR
FA102-R.2	FIRE ALARM DEMOLITION - SECOND FLOOR
FA200-R.2	FIRE ALARM PROPOSED - LOWER LEVEL BASE SCOPE
FA200B-R.2	FIRE ALARM PROPOSED - LOWER LEVEL DEDUCT ALT.
FA200C-R.2	FIRE ALARM PROPOSED - LOWER LEVEL ADD ALTERNATE
FA201-R.2	FIRE ALARM PROPOSED - FIRST FLOOR
FA202-R.2	FIRE ALARM PROPOSED - SECOND FLOOR
FA203-R.2	FIRE ALARM PROPOSED - ATTIC

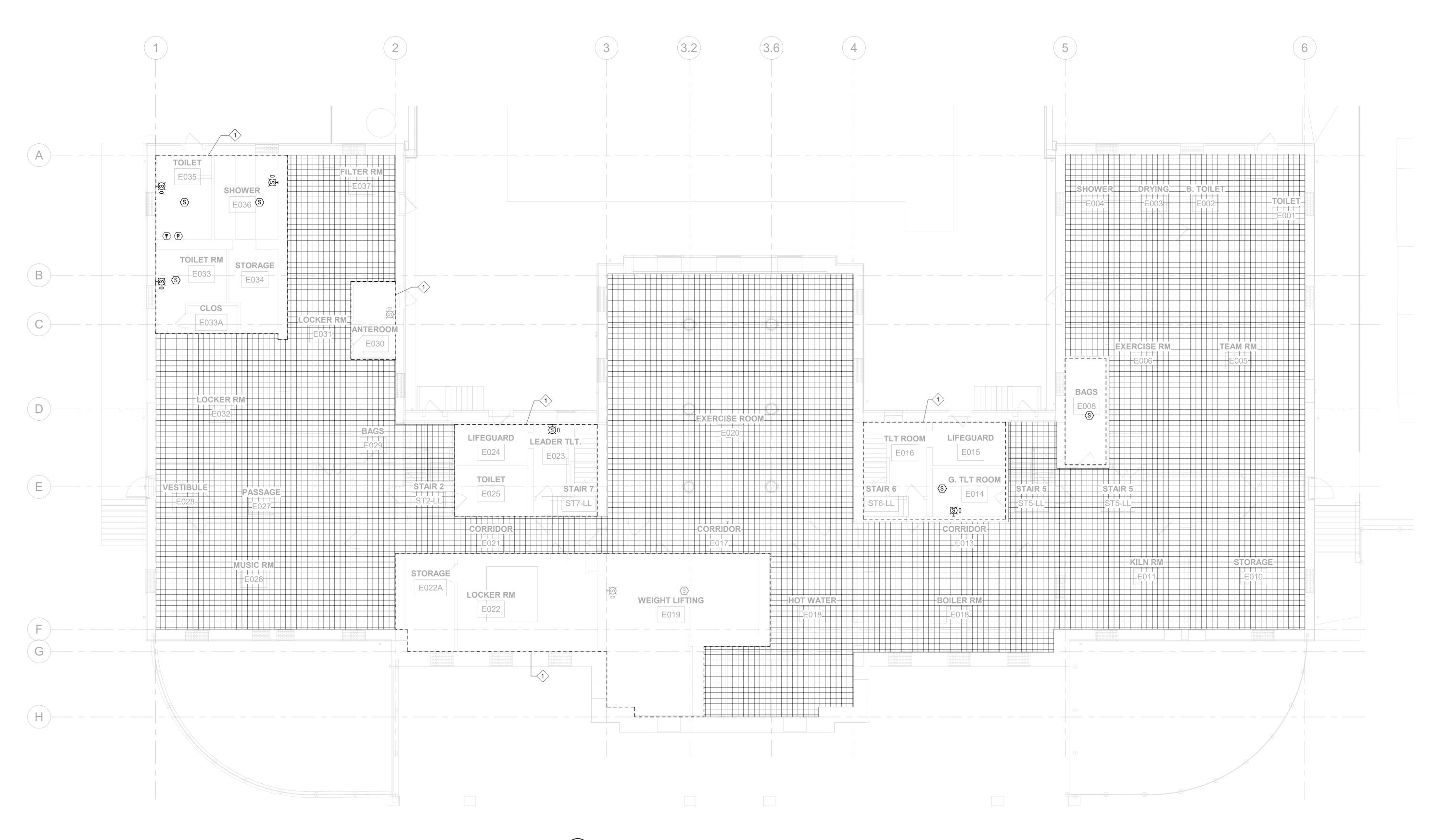




DEMOLITION NOTES

EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.





 1
 FIRE ALARM DEMOLITION - REC CENTER LOWER LEVEL - DEDUCT ALT

 FA100B-R.21/8" = 1'-0"

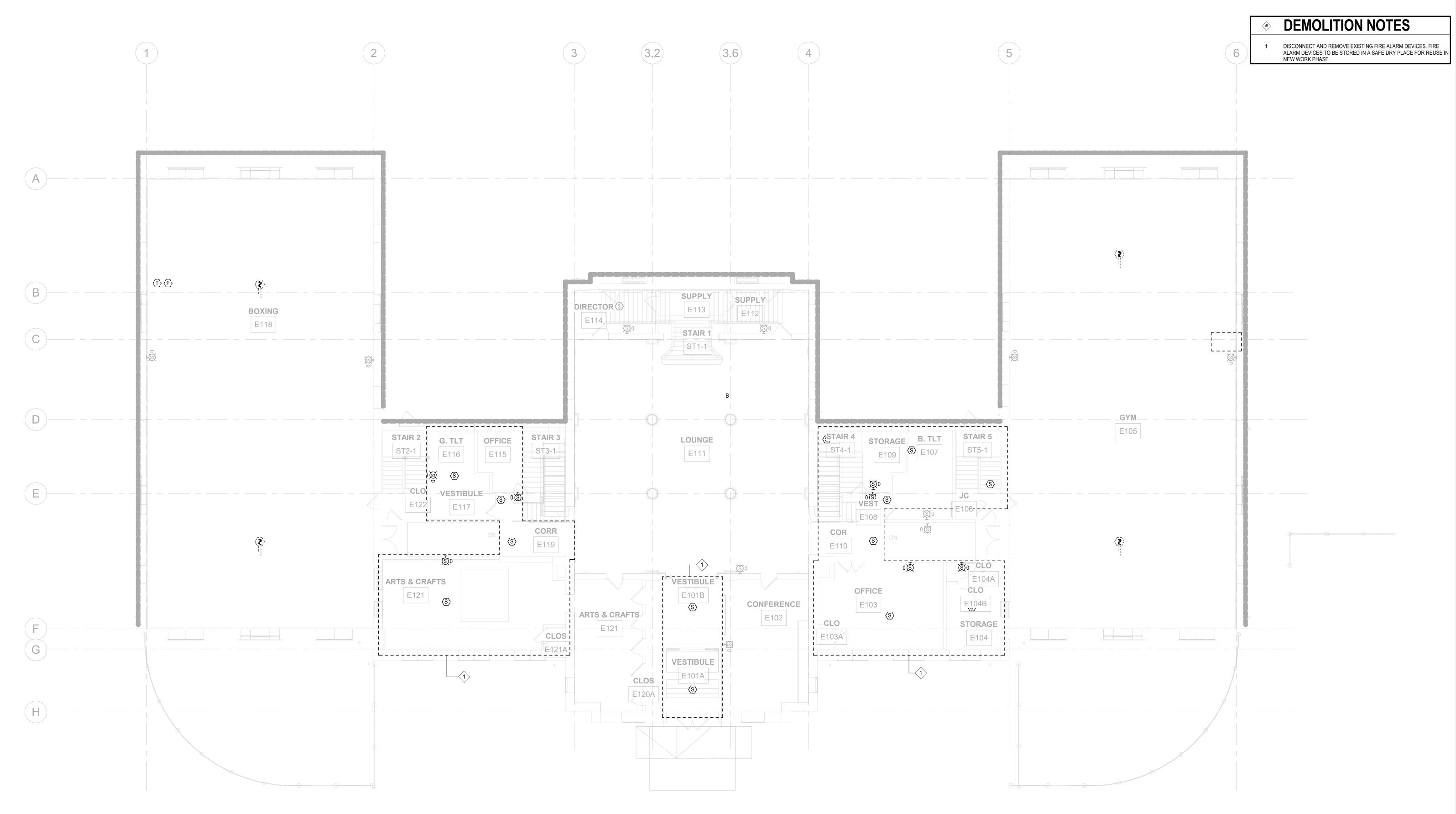
GENERAL NOTES

- EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. PLANS MAY NOT SHOW ALL EXISTING FIRE ALARM DEVICES. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING QUANTITY AND LOCATION OF ALL EXISTING FIRE ALARM DEVICES ON SITE .
 COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.
 CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL
- QUANITITIES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.
- REUSE ANY EXISTING CONDUIT IF EQUIPMENT OR DEVICE IS REPLACED IN KIND -MATCH SURFACE NEW FINISH. PATCH AND MATCH FINAL SURFACE FINISHES WHERE EQUIPMENT IS REMOVED IN ITS ENTIRETY.

DEMOLITION NOTES

DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICES. FIRE ALARM DEVICES TO BE STORED IN A SAFE DRY PLACE FOR REUSE IN NEW WORK PHASE.





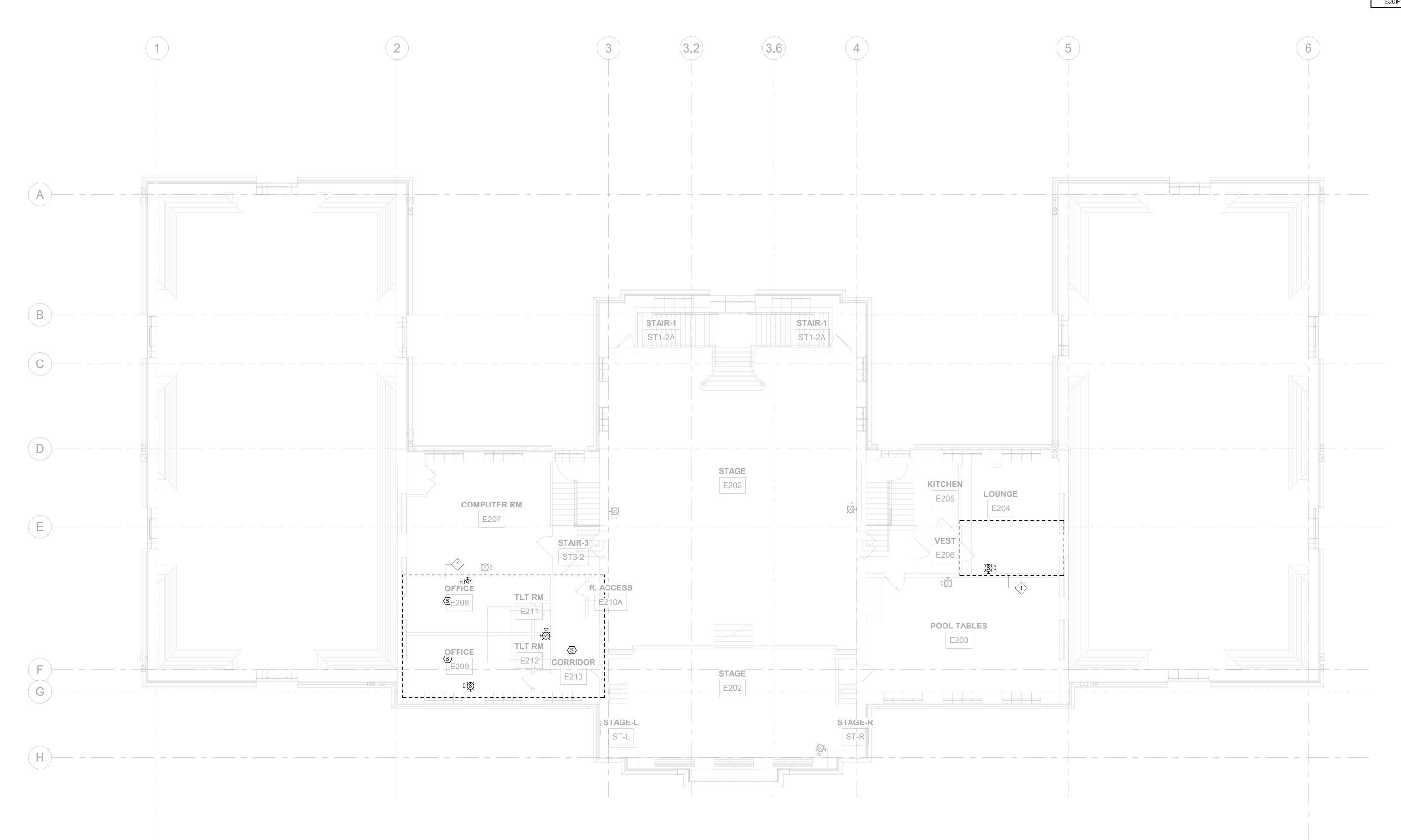
 1
 FIRE ALARM DEMOLITION - REC CENTER FIRST FLOOR

 FA101-B/2 1/8" = 1'-0"



- EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.
- CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL QUANITITIES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.
- . REUSE ANY EXISTING CONDUIT IF EQUIPMENT OR DEVICE IS REPLACED IN KIND -MATCH SURFACE NEW FINISH. PATCH AND MATCH FINAL SURFACE FINISHES WHERE EQUIPMENT IS REMOVED IN ITS ENTIRETY.





1 FIRE ALARM DEMOLITION - REC CENTER SECOND FLOOR FA102-B/2 1/8" = 1'-0"

GENERAL NOTES

- . EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.
- 2. CONTRACTOR IS RESPONSIBLE TO VISIT THE PROJECT SITE AND VERIFY ALL QUANITITIES AND LOCATIONS OF ALL EQUIPMENT AND DEVICES THAT ARE TO BE
- DEMOLISHED PRIOR TO BID. REFER TO DEMOLITION NOTES FOR ADDITIONAL INFORMATION.

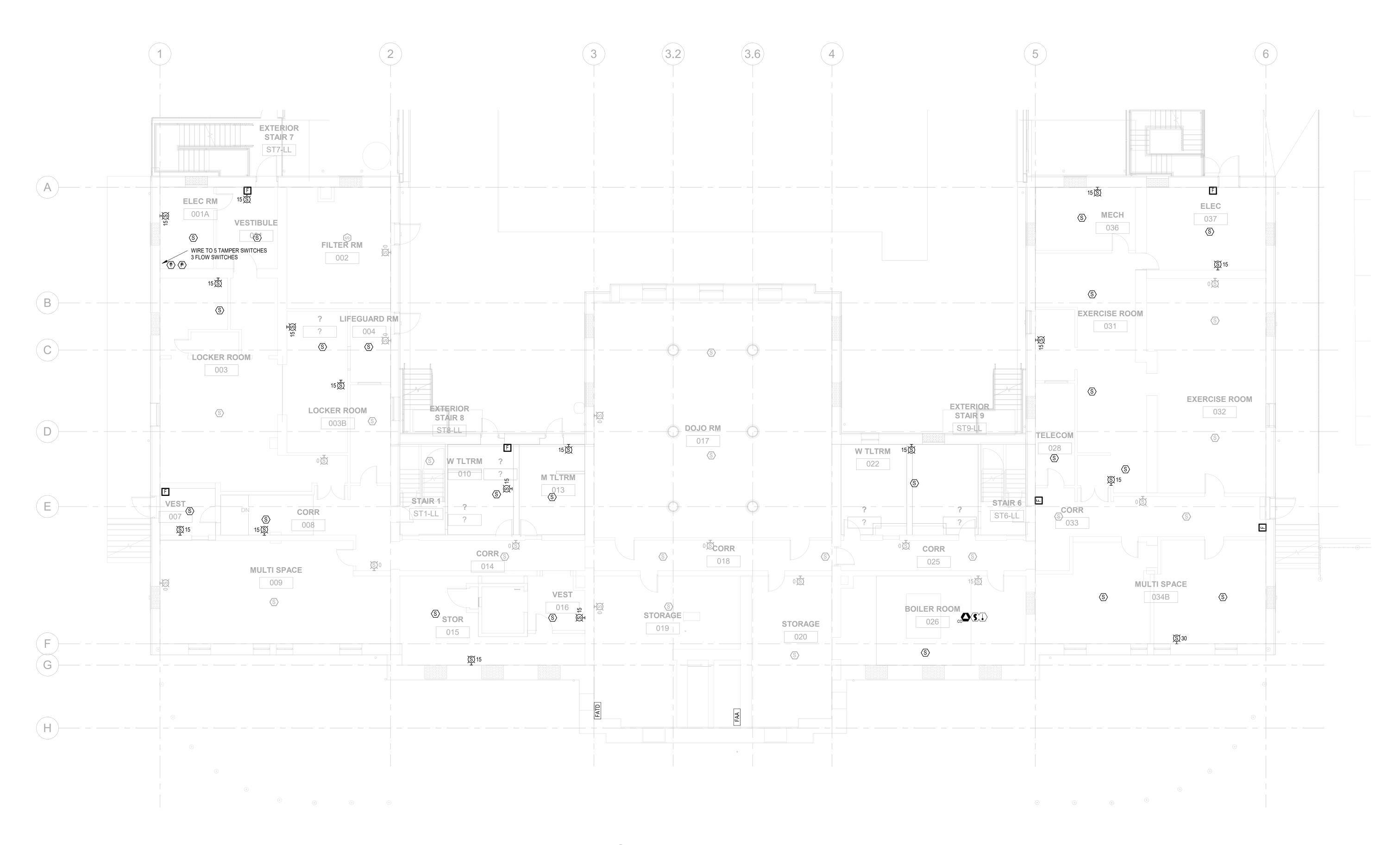
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 REUSE ANY EXISTING CONDUIT IF EQUIPMENT OR DEVICE IS REPLACED IN KIND -MATCH SURFACE NEW FINISH. PATCH AND MATCH FINAL SURFACE FINISHES WHERE EQUIPMENT IS REMOVED IN ITS ENTIRETY.

DEMOLITION NOTES

DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICES. FIRE ALARM DEVICES TO BE STORED IN A SAFE DRY PLACE FOR REUSE IN NEW WORK PHASE.



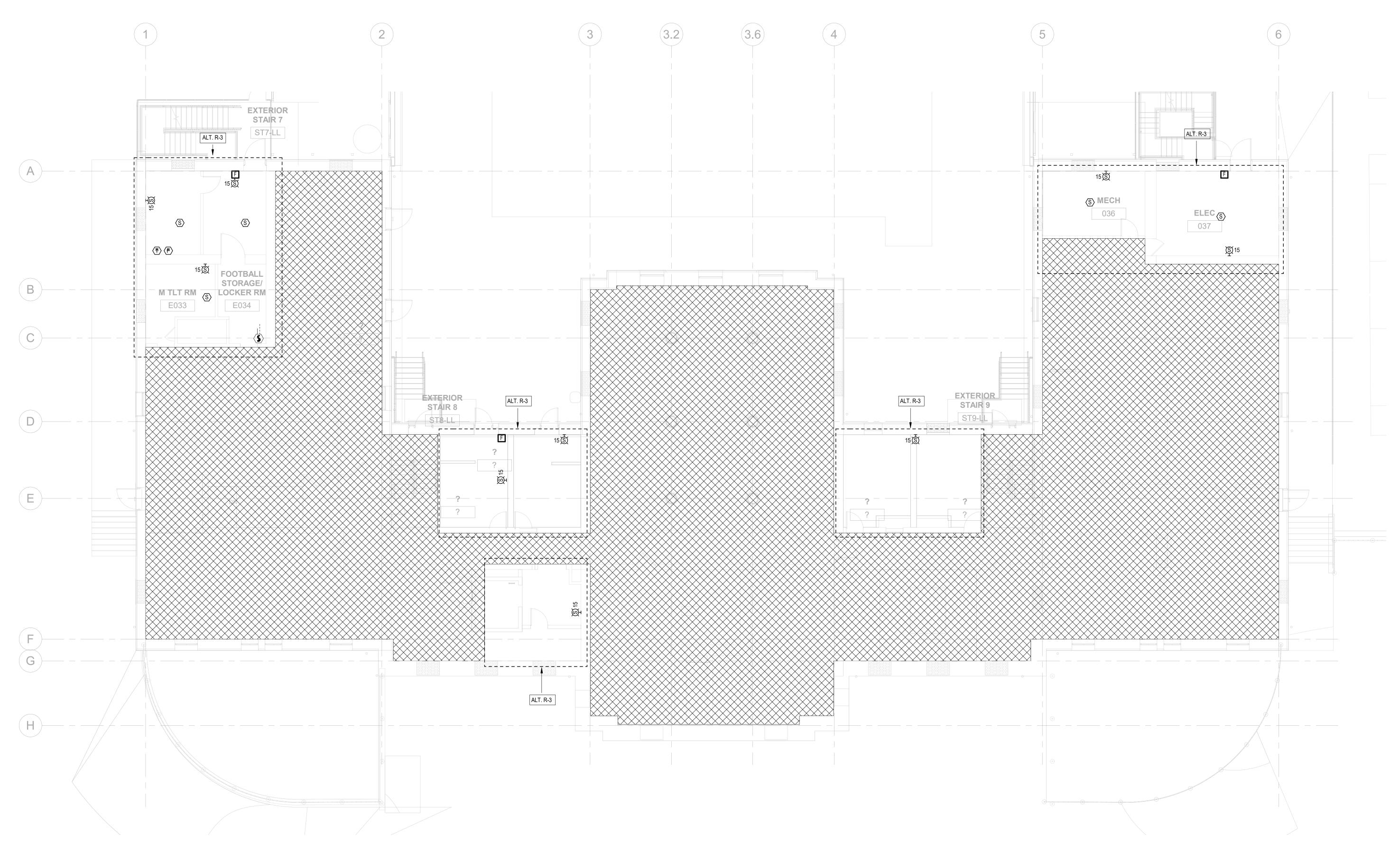


1FIRE ALARM PROPOSED - REC CENTER LOWER LEVELFA200-B/2 1/8" = 1'-0"

GENERAL NOTES

- 1. EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.
- 2. ALL NEW FIRE ALARM DEVICES TO BE COMPITABLE WITH EXISITNG HONEYWELL SILENT KNIGHT MODEL 6820.
- 3. SMOKE ALARM DEVICES SHALL BE MOUNTED TO CEILING LEVEL.
- 4. STROBE LIGHTS SHALL BE MOUNTED 7' 2" ABOVE FINISHED FLOOR.
- FIRE ALARM PULL STATIONS SHALL BE MOUNTED 4' ABOVE FINISHED FLOOR.
 DESIGN ALTERNATE R-3
- EXISTING FIRE ALARM SYSTEM IS MONITORED BY FIDELITY ALARM CONTACT AT 1-800-224-1077





 1
 FIRE ALARM PROPOSED - REC CENTER LOWER LEVEL - ALTERNATE R-3

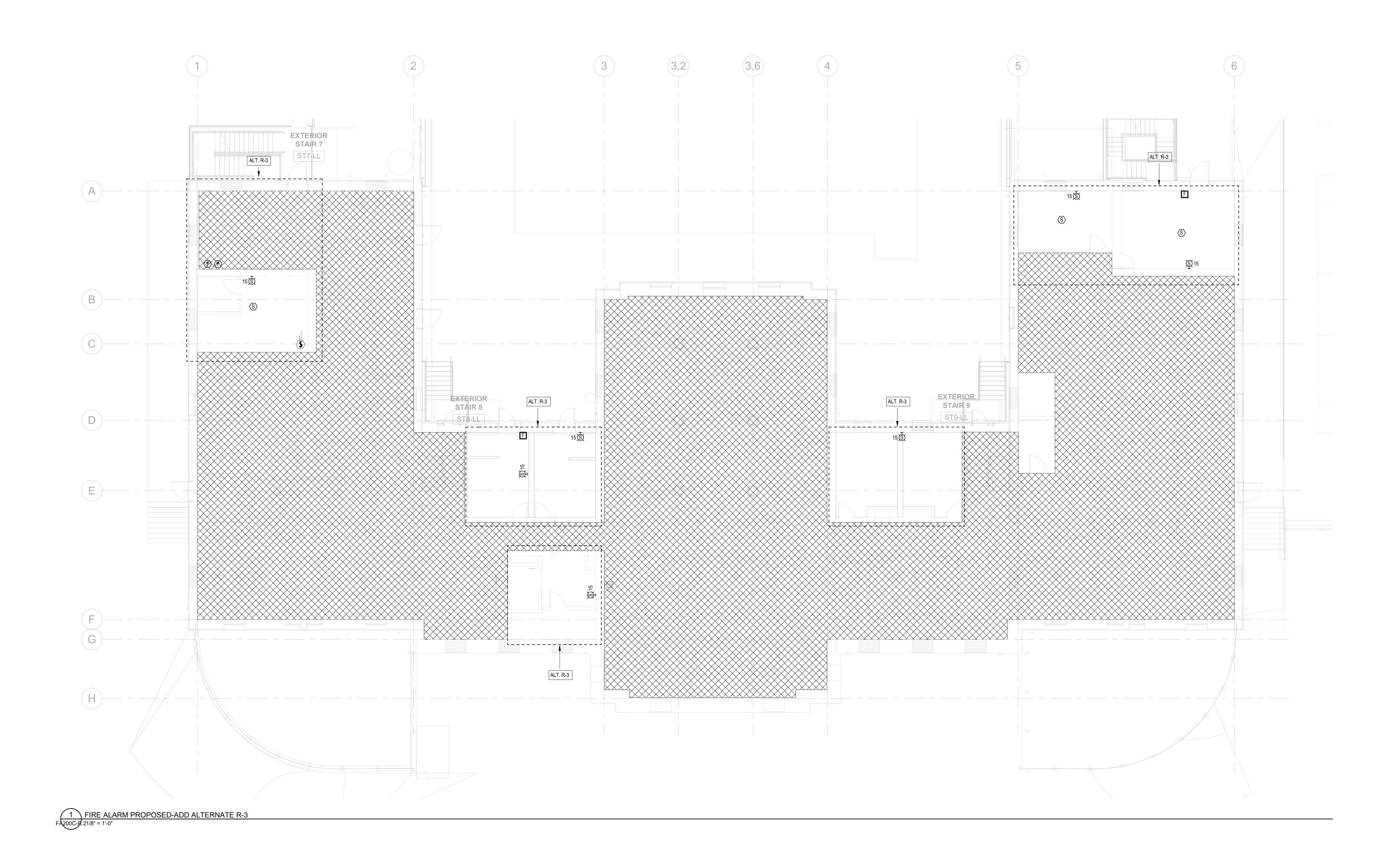
 FA200B-F.21/8" = 1'-0"

GENERAL NOTES

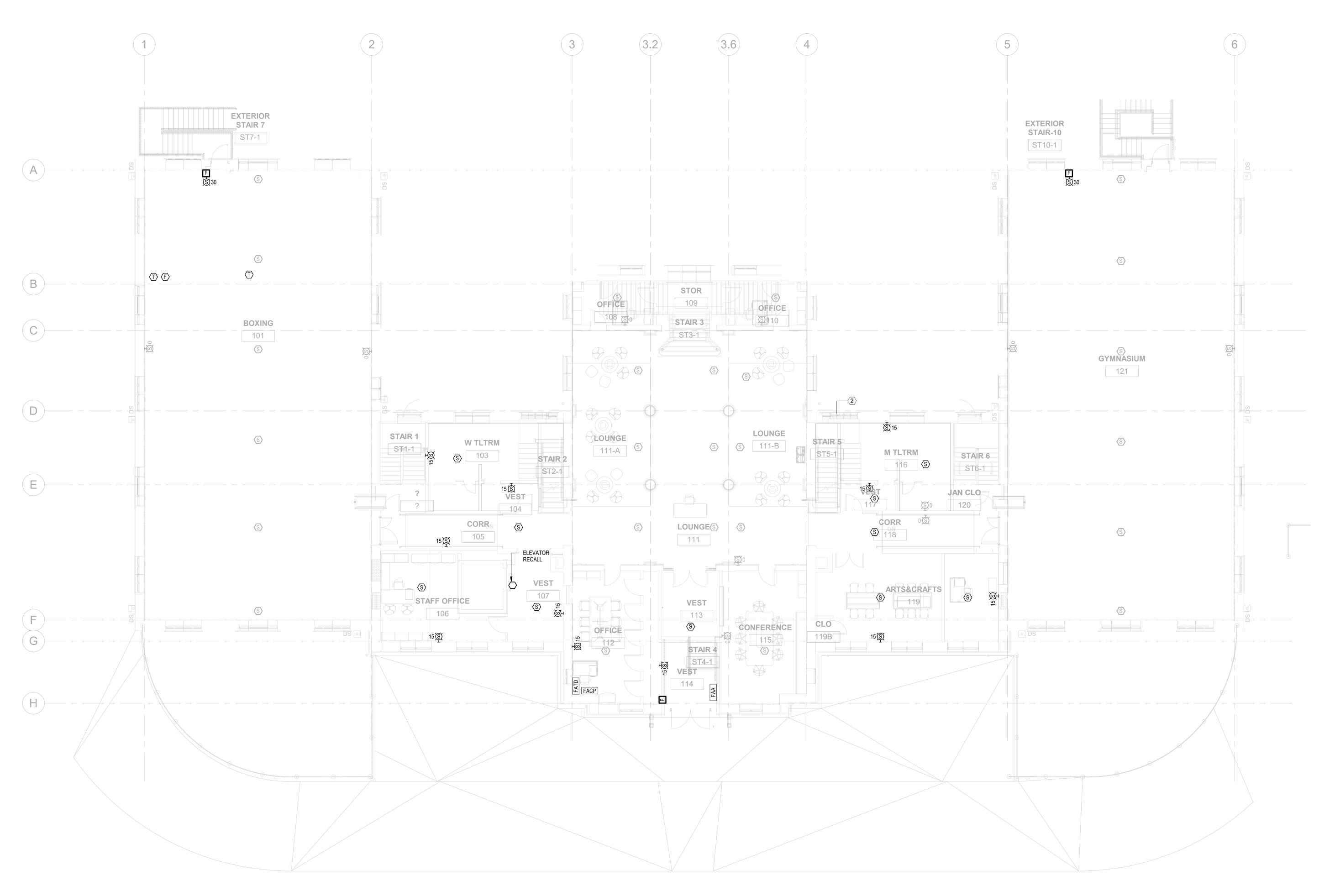
. EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.

- ALL NEW FIRE ALARM DEVICES TO BE COMPITABLE WITH COMPATIBLE WITH HONEYWELL SILENT KNIGHT MODEL 6820.
- 3. EXISTING FIRE ALARM SYSTEM IS MONITORED BY FIDELITY ALARM CONTACT AT 1-800-224-1077









1 FIRE ALARM PROPOSED - REC CENTER FIRST FLOOR FA201-R/2 1/8" = 1'-0"

GENERAL NOTES

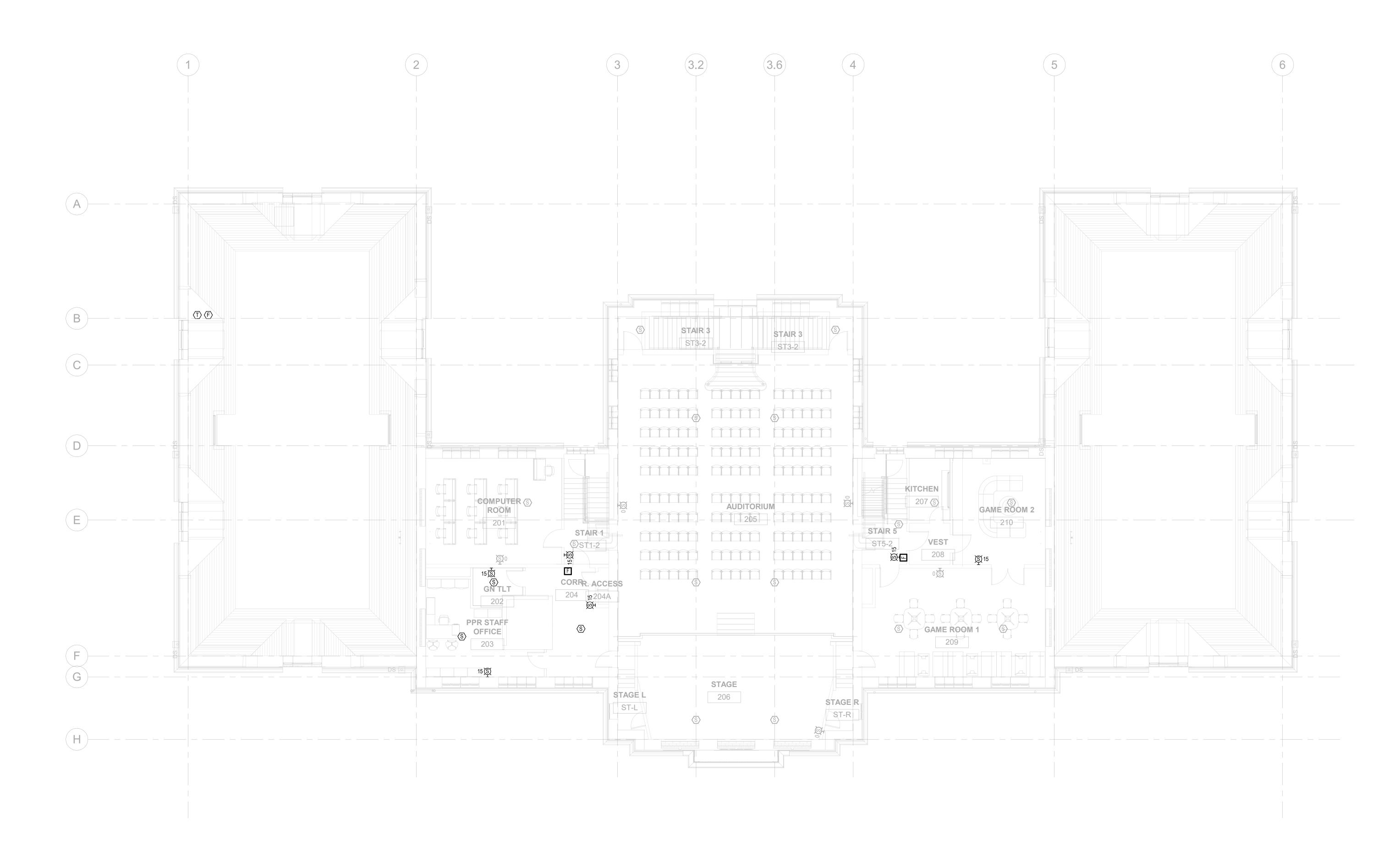
REQUIRED.

- . EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE
- ADJUSTMENTS AS REQUIRED. 2. ALL NEW FIRE ALARM DEVICES TO BE COMPITABLE WITH HONEYWELL SILENT KNIGHT
- MODEL 6820.
- SMOKE ALARM DEVICES SHALL BE MOUNTED TO CEILING LEVEL.
 STROBE LIGHTS SHALL BE MOUNTED 7' 2" ABOVE FINISHED FLOOR.
- 5. FIRE ALARM PULL STATIONS SHALL BE MOUNTED 4' ABOVE FINISHED FLOOR.
- 6. EXISTING FIRE ALARM SYSTEM IS MONITORED BY FIDELITY ALARM CONTACT AT 1-800-224-1077

CONSTRUCTION NOTES

2 EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS





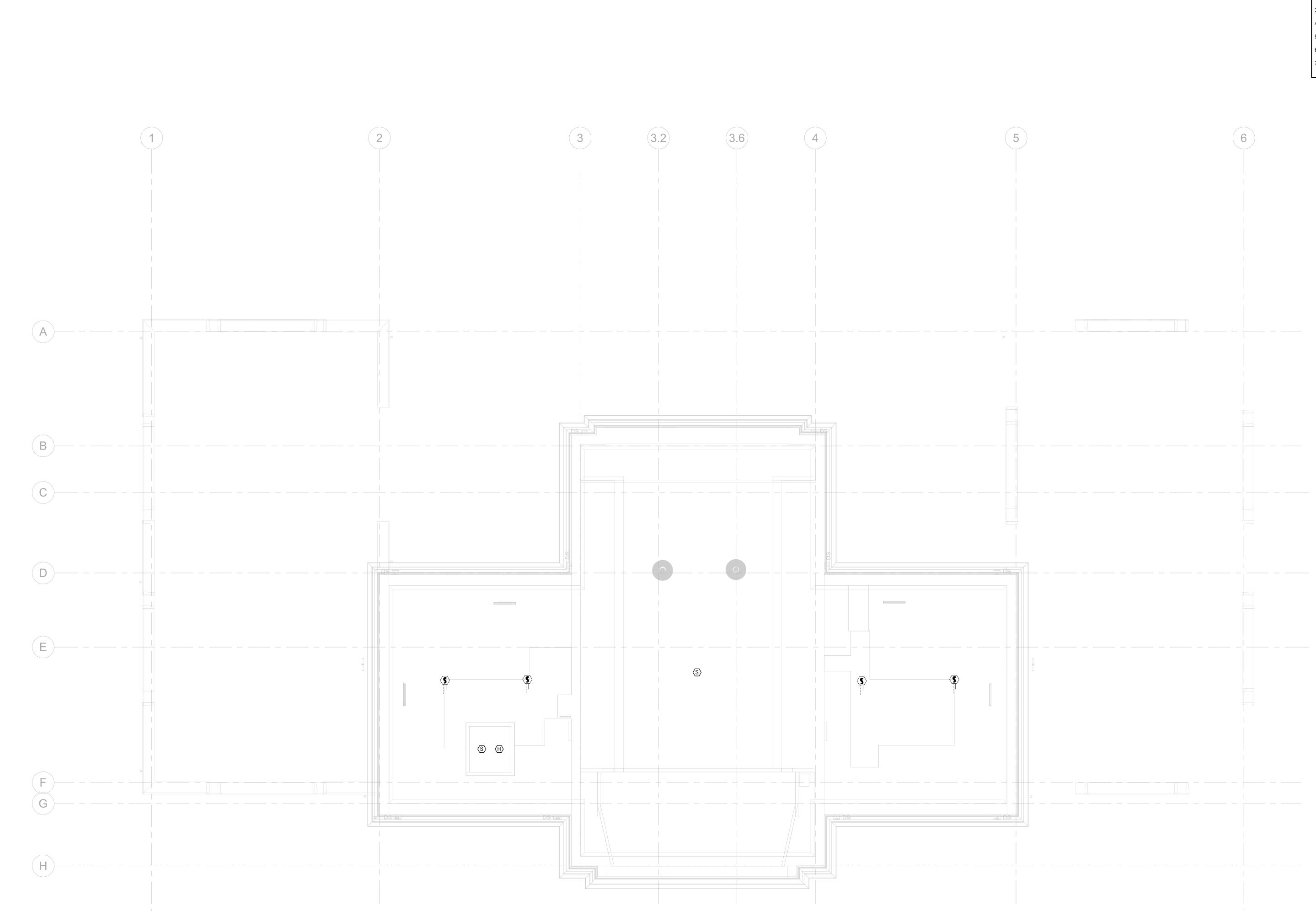
 1
 FIRE ALARM PROPOSED - REC CENTER SECOND FLOOR

 FA202-R/2 1/8" = 1'-0"

GENERAL NOTES

- EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.
- 2. ALL NEW FIRE ALARM DEVICES TO BE COMPITABLE WITH HONEYWELL SILENT KNIGHT MODEL 6820.
- 3. SMOKE ALARM DEVICES SHALL BE MOUNTED TO CEILING LEVEL.
- 4. STROBE LIGHTS SHALL BE MOUNTED 7' 2" ABOVE FINISHED FLOOR.
- 5. FIRE ALARM PULL STATIONS SHALL BE MOUNTED 4' ABOVE FINISHED FLOOR.
- EXISTING FIRE ALARM SYSTEM IS MONITORED BY FIDELITY ALARM CONTACT AT 1-800-224-1077

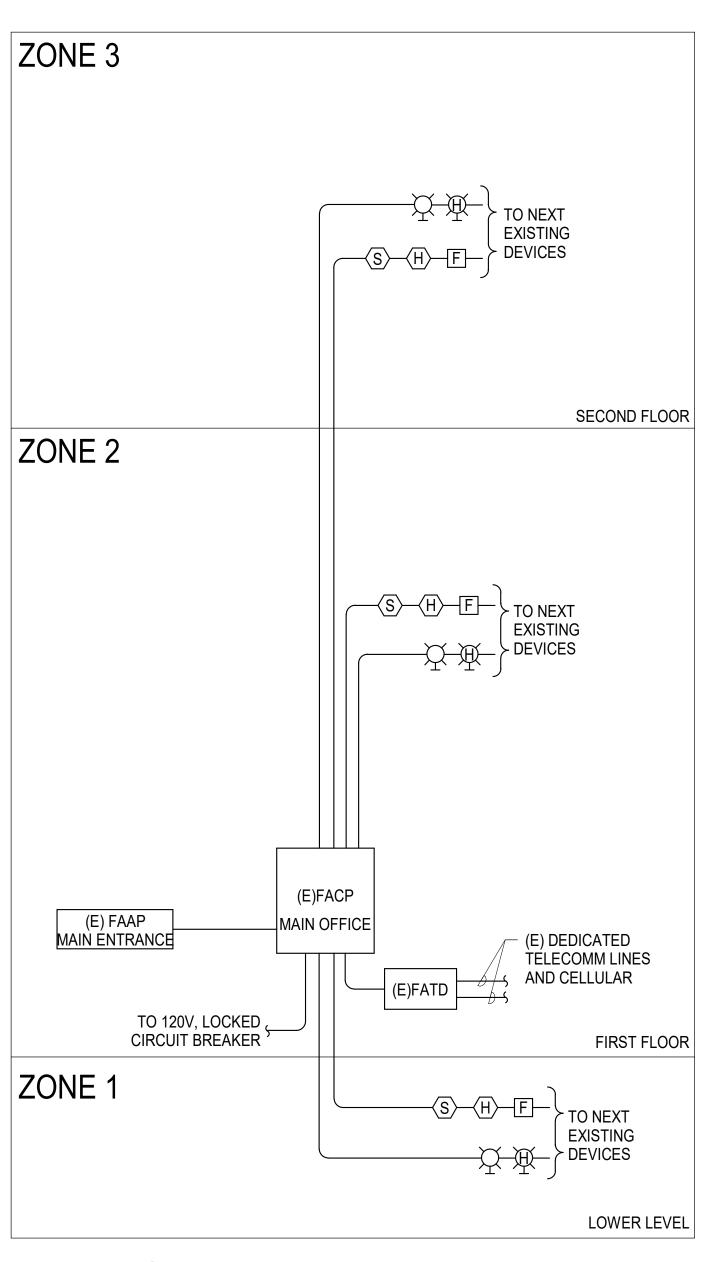




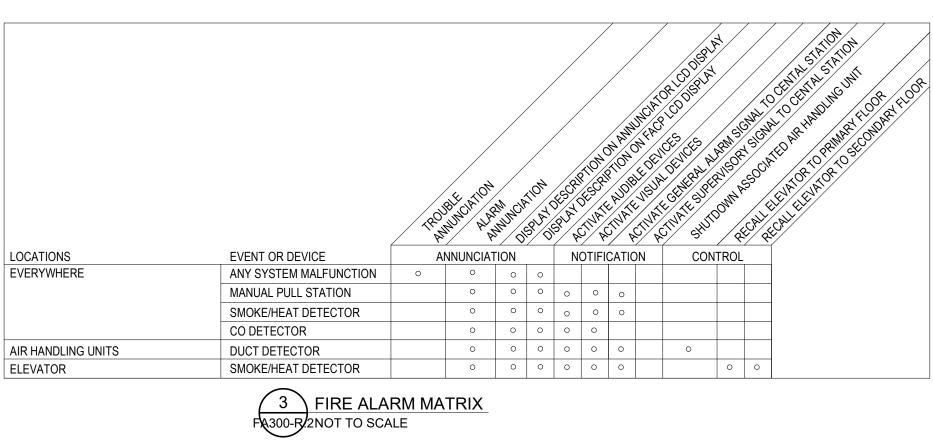
1 FIRE ALARM PROPOSED - REC CENTER ATTIC/ROOF FA203-R/2 1/8" = 1'-0"

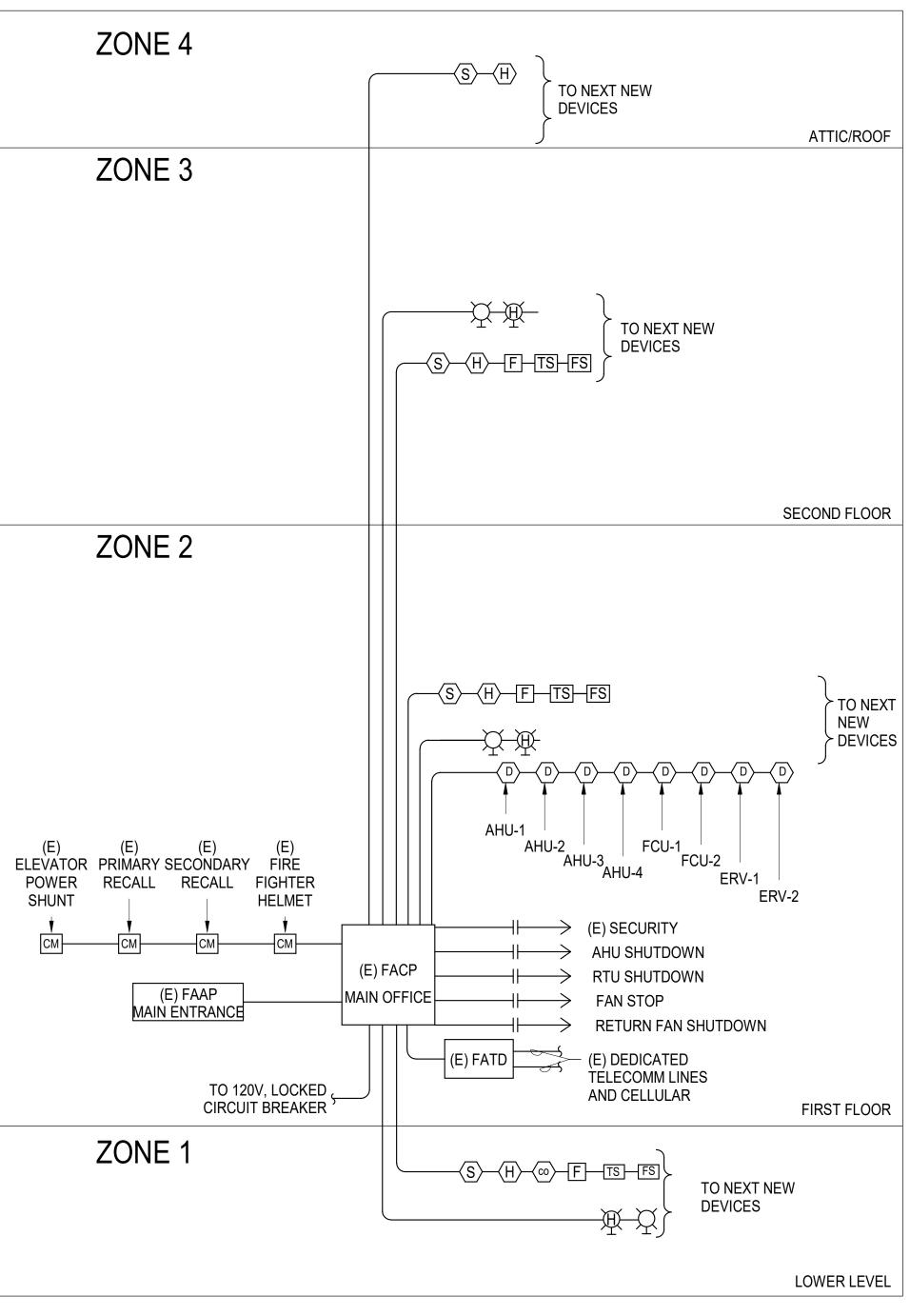
- 1. EXISTING FIRE ALARM DEVICES AND EQUIPMENT TO REMAIN. COORDINATE EXISTING FIRE ALARM EQUIPMENT AND DEVICE LOCATIONS WITH NEW WORK LAYOUT. PROVIDE ADJUSTMENTS AS REQUIRED.
- ADJUSTMENTS AS REQUIRED. 2. ALL NEW FIRE ALARM DEVICES TO BE COMPITABLE WITH EXISTING HONEYWELL SILENT
- KINGHT MODEL 6820.
- 3. SMOKE ALARM DEVICES SHALL BE MOUNTED TO CEILING LEVEL.
- 4. STROBE LIGHTS SHALL BE MOUNTED 7' 2" ABOVE FINISHED FLOOR.
- 5. FIRE ALARM PULL STATIONS SHALL BE MOUNTED 4' ABOVE FINISHED FLOOR.
- 6. HEAT DETECTORS SHALL BE MOUNTED AT CEILING LEVEL.
- 7. EXISTING FIRE ALARM SYSTEM IS MONITORED BY FIDELITY ALARM CONTACT AT 1-800-224-1077







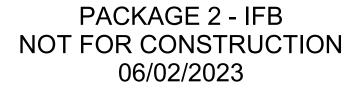




FA300-R/2NOT TO SCALE

GENERAL NOTES

. EXISITING FACP IS HONEYWELL SILENTKNIGHT MODEL 6820 MONITORED BY FIDELITY ALARM (800) 224 - 1077





FIRE PROTECTION SYMBOLS

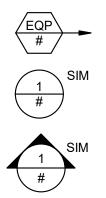
XXX	ABORT SWITCH (INDICATE TYPE)
CO2	ABORT SWITCH - CO2
	FLUSH FIRE DEPARTMENT CONNECTION
000	FREESTANDING SIAMESE FIRE DEPTARTMENT CONNECTION
\sim	SIAMESE FIRE DEPARTMENT CONNECTION
FSCP	FIRE SUPPRESSION CONTROL PANEL
A X A	FESTANDING TEST HEADER
₹ Z	WALL-MOUNTED TEST HEADER
\bigcirc	METER
X	MANUAL STATION (INDICATE TYPE)
XXX	MANUAL STATION (INDICATE TYPE)
C02	MANUAL STATION - CARBON DIOXIDE
XX _	MONITOR SWITCH (INDICATE TYPE) PIPE CAP
\square	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PIPE FLOW DIRECTION
	MECHANICAL PIPE COUPLING
С	PIPE DROP
0	PIPE RISE PIPE TEE
······	PIPE TRACE HEATER
5	PIPE CONTINUATION
${\color{black}\textcircled{\bullet}}$	POINT OF CONNECTION - NEW/EXISTING
$\boldsymbol{\diamond}$	POINT OF CONNECTION - DEMOLITION
	HORIZONTAL FIRE PUMP
	VERTICAL FIRE PUMP
\odot	SRINKLER
\bigtriangledown	
0	UPRIGHT SPRINKLER WINDOW SPRINKLER
	RISER CHECK VALVE
	ANGLE VALVE
	CHECK VALVE
	BACKFLOW PREVENTOR - DOUBLE CHECK TYPE
\diamond	DELUGE VALVE
Ř	DRY PIPE VALVE
	DRY PIPE VALVE W/ QUICK OPENING DEVICE
\Leftrightarrow	PREACTION VALVE
FHV	FIRE HOSE VALVE
\bowtie	VALVE (GENERAL)
	OUTSIDE SCREW & YOKE (OS&Y) VALVE
	POST-INDICATOR VAVLE
	PRESSURE RELIEF VALVE
	PRESSURE REGULATING VALVE
VS	CONTROL VALVE W/ TAMPER SWITCH
XXX	WALL CABINET (INDICATE TYPE)

GENERAL SYMBOLS

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POINT OF CONNECTION (NEW TO EXISTING) EXTENT OF DEMOLITION POINT OF CONNECTION TO EQUIPMENT SUPPLIED BY CONTRACTOR CENTERLINE DIAMETER BREAK LINE (SINGLE LINE)



EQUIPMENT TAG - SEE EQUIPMENT DATA SHEET: EQPM = EQUIPMENT ABBREVIATION # = EQUIPMENT NUMBER DETAIL BUBBLE:

1 = DENOTES DETAIL NUMBER # = DENOTES DRAWING NUMBER OF DETAIL LOCATION SECTION CUT ARROW:

A = DENOTES SECTION IDENTIFICATION # = DENOTES DRAWING NUMBER OF SECTION DETAIL

FIRE ALARM SYMBOLS

FACP	FIRE ALARM CONTROL PANEL
FAA	REMOTE FIRE ALARM ANNOUNCER
NAC	NOTIFICATION APPLIANCE CIRCUIT PANEL
€ xx	HEAT DETECTOR (INDICATE TYPE)
s	SMOKE DETECTOR (INDICATE TYPE)
	DUCT DETECTOR
S	AUDIBLE NOTIFICATION EQUIPMENT (INDICATE H,B,L,S)
Ś	CEILING MOUNTED NOTIFICATION EQUIPMENT (INDICATE L,H,S
Ŝ_́xxx	WALL-MOUNTED NOTIFICATION EQUIPMENT (INDICATE L,H,S)

FIRE PROTECTION ABBREVIATIONS

AFF	ABOVE FINISHED FLOOF
APPROX	APPROXIMATE
BFP- () BHP	BACK FLOW PREVENTED BRAKE HORSEPOWER
	CENTERLINE
COMB	CARBON DIOXIDE COMBINATION
CONN	CONNECTION
DCH	DRY CHEMICAL
DEPT DESS	DEPARTMENT DELUGE SPRINKLER SY
DET	DETAIL
DEG DEG F	DEGREE DEGREES FAHRENHEIT
DIA	DIAMETER
DISC	DISCHARGE
DN DR	DOWN DRAIN
DSP	DRY STANDPIPE
DSS DWG	DRY SPRINKLER SYSTEI DRAWING
EA	EACH
EL	ELEVATION
ELEC F	ELECTRICAL FIRE MAIN - UNDERGRO
FCVA	FLOOR CONTROL VALVE
FDC FE	FIRE DEPARTMENT CON FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CA
FHVC	FIRE HOSE VALVE CABI
FHR	FIRE HOSE RACK
FHV FLR	FIRE HOSE VALVE FLOOR
FOM	FOAM SYSTEM
FP	FIRE PUMP
FPS FS	FEET PER SECOND FLOW SWITCH
FSCP	FIRE SUPRESSION CON
FT	FEET
GA GAL	GAUGE GALLON
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HAZ HORIZ	HAZARDOUS HORIZONTAL
HP	HORIZONTAL
HR	HOUR
HZ	HERTZ
JP KW	JOCKEY PUMP KILOWATT
L	LITER
	LITERS PER MINUTE
MECH MFR	MECHANICAL MANUFACTURER
MIN	MINIMUM
NO.	NUMBER NORMALLY CLOSED
NC NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS OS&Y	NOT TO SCALE OUTSIDE SCREW AND Y
PH	PHASE
PIV	POST INDICATOR VALVE
PNTHSE PRESS	PENTHOUSE PRESSURE
PSI	POUNDS PER SQUARE I
PSIG	POUNDS PER SQUARE I
PSS QR	PREACTION SPRINKLER QUICK RESPONSE
QTY	QUANTITY
RM	ROOM
SPEC SQ FT	SPECIFICATION SQUARE FOOT
SQ M	SQUARE METER
SPKR	SPRINKLER
SS SUCT	STAINLESS STEEL SUCTION
SYS	SYSTEM
TEMP	TEMPERATURE
TS TYP	TAMPER SWITCH TYPICAL
UNO	UNLESS NOTED OTHER
V	VOLTS
W/ W/O	WITH WITHOUT
WFS	WATER FLOW SWITCH
WSP	WET STANDPIPE
WSR WSS	WET SPRINKLER RISER WET SPRINKLER SYSTE
NOTE - NO	OT ALL ABBREVIATIONS N

GENERAL COMPLIANCE - PA

- 1. ALL PLUMBING MATERIAL, FIXTURES AND EQUIPMENT SHALL BE LISTED BY THE FOLLOWING APPLICABLE STANDARDS 2018 INTERNATIONAL BUILDING CODE 2018 INTERNATIONAL FIRE CODE NATIONAL FIRE PROTECTION ASSOCIATION 13 (NFPA 13) AMERICAN NATIONAL STANDARDS INSTITUTE (ÀNSI) AMERICAN SOCIETY OF MECHANICAL ENGINEERS (AMSE) AMERICAN SOCIETY FOR TESTING MATERIAL (ASTM) AMERICAN WATER WORKS ASSOCIATION (AWWA) CAST IRON SOIL PIPE (CISPI) MANUFACTURING STANDARDIZATION SOCIETY (MSS)
- NATIONAL FIRE ASSOCIATION (NFPA) NATIONAL SANITATION FOUNDATION (NSF) UNDERWRITERS LABORATORIES (UL)

- NCE CIRCUIT PANEL ICATE TYPE)
- NDICATE TYPE)

N EQUIPMENT (INDICATE H,B,L,S)

ER- (TYPE)

YSTEM

JUND 'E ASSEMBLY NNECTION

RINET BINET

NTROL PANEL

YOKE

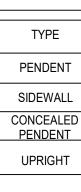
INCH INCH GAUGE R SYSTEM

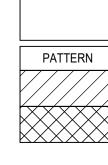
RWISE

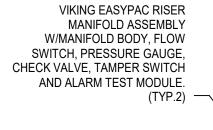
MAY BE USED

FIRE PROTECTION NOTES

- 1. DESIGN AND PROVIDE THE SPRINKLER SYSTEM MODIFICATIONS IN ACCORDANCE WITH LOCAL CODES, NFPA 13, MANUFACTURER'S RECOMMENDATIONS, OWNER'S DESIGN STANDARDS AND OWNER'S INSURANCE UNDERWRITER REQUIREMENTS.
- 2. FIRE PROTECTION SYSTEM MATERIALS SHALL BE UL LISTED AND FM GLOBAL APPROVED.
- 3. SURVEY EXISTING SPRINKLER SYSTEM TO VERIFY PIPING LOCATIONS AND SIZES
- PRIOR TO BEGINNING SYSTEM DESIGN. 4. COORDINATE THE INSTALLATION OF FIRE PROTECTION PIPING WITH ALL TRADES
- AND DRAWINGS PRIOR TO COMMENCING INSTALLATION. 5. SYSTEM DESIGN SHALL BE BASED ON THE FOLLOWING MINIMUM CRITERIA
- UNLESS NOTED OTHERWISE: a. HAZARD CLASS: ORDINARY
- b. DENSITY: 0.15 GPM/SQ FT c. AREA: 1500 SQ FT d. SPACING: 130 SQ FT MAXIMUM PER SPRINKLER
- 6. PROVIDE COMPLETE WORKING PLANS, INCLUDING HYDRAULIC CALCULATIONS, TO CLEARLY DEFINE THE SCOPE OF WORK FOR THE SPRINKLER SYSTEM MODIFICATIONS WITHIN THE DEFINED SCOPE OF WORK AREA AS WELL AS ALL APPLICABLE ITEMS AS INDICATED FOR WORKING PLANS IN ACCORDANCE WITH NFPA 13. THE PLANS SHALL INCLUDE INDICATION OF NEW SPRINKLER LOCATIONS, BRANCHLINE/MAIN SIZES, LOCATION AND ROUTING AS REQUIRED TO SATISFY THE DESIGN CRITERIA AS SPECIFIED. EXISTING PIPING LOCATIONS, SIZES AND ROUTING SHALL BE INDICATED (INCLUDING NON-SCOPE AREA) WITH HYDRAULIC NODE POINTS BACK TO SOURCE OF FIRE PROTECTION WATER TO COMPLEMENT THE HYDRAULIC CALCULATIONS. IN ALL CASES, INFORMATION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ) SHALL BE PROVIDED.
- 7. A MINIMUM TEN (10) PERCENT OR TEN (10) PSI PRESSURE SAFETY FACTOR (WHICHEVER IS GREATER) SHALL BE MAINTAINED BETWEEN AVAILABLE WATER SUPPLY AND COMBINED DEMAND OF SPRINKLER SYSTEM AND HOSE STREAM ALLOWANCE TO ACCOUNT FOR FUTURE DETERIORATION.
- 8. RELOCATE, ADD AND/OR REMOVE AUTOMATIC SPRINKLERS AND ASSOCIATED PIPING/FITTINGS AND OTHER DEVICES AS REQUIRED TO ACCOMMODATE AND COORDINATE WITH ALL ARCHITECTURAL, MEP AND FIRE PROTECTION RENOVATIONS/MODIFICATIONS IN THE SCOPE OF WORK AREA AND AS INDICATED.
- 9. PIPE VELOCITIES SHALL BE LIMITED TO 20 FPS IN BRANCHLINES AND 25 FPS IN
- 10. CONTRACTOR SHALL PROVIDE PROTECTION FOR PIPING AGAINST DAMAGE BY EARTHQUAKES IN ACCORDANCE WITH NFPA 13 AND ASCE/SEI 7-05 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES".
- 11. PIPING, FITTINGS, AND JOINTS SHALL BE BLACK CARBON STEEL. PIPING SHALL BE SCHEDULE 40 (2 INCH DIAMETER AND SMALLER) AND SCHEDULE 10 (2.5 INCH DIAMETER AND LARGER).
- 12. PIPING SIZE CHANGES SHALL BE MADE WITH REDUCING FITTINGS. FLUSH OR HEX BUSHINGS ARE NOT ACCEPTABLE.
- 13. FLUSHING CONNECTIONS CONSISTING OF A THREADED CAPPED NIPPLE OR APPROVED MECHANICAL GROOVED END CAP SHALL BE PROVIDED ON THE END(S) OF ALL CROSS-MAINS. THE NIPPLE SHALL BE THE SAME DIAMETER AS THE END PIPE BUT NOT LARGER THAN 2 INCHES.
- 14. FOR WELDED PIPING AND PIPING WITH CUT HOLES, THE CONTRACTOR SHALL CERTIFY THAT ALL CUTOUTS (COUPONS OR DISCS) HAVE BEEN RETRIEVED AND THAT ALL INTERNAL SLAG AND WELDING RESIDUE IS REMOVED.
- 15. PROVIDE SPECIAL SPRINKLER WRENCHES, SPARE SPRINKLER HEADS, AND STORAGE CABINETS IN ACCORDANCE WITH NFPA 13.
- 16. DO NOT RUN PIPING OVER ELECTRICAL EQUIPMENT. FOR ELECTRICAL EQUIPMENT ROOMS AND ELEVATOR MACHINE ROOMS, ONLY SPRINKLERS AND PIPING WHICH ARE DIRECTLY AND EXCLUSIVELY PROVIDING PROTECTION TO THESE SPACES MAY ENTER THESE SPACES.
- 17. LOCATE PIPING SO THAT ACCESS TO AND CLEARANCE AROUND EQUIPMENT AND MINIMUM HEADROOM OF 7 FEET ARE MAINTAINED. RUN PIPING IN THE MOST DIRECT MANNER, FORMING RIGHT ANGLES WITH OR PARALLEL TO BUILDING LINES.
- 18. SPRINKLER DISCHARGE SHALL NOT BE OBSTRUCTED IN ANY WAY. WHERE OBSTRUCTIONS TO SPRINKLER DISCHARGE EXIST, LOCATE SPRINKLERS WITH RESPECT TO THESE OBSTRUCTIONS IN ACCORDANCE WITH NFPA 13.
- 19. PROVIDE SPRINKLERS BELOW DUCTS, DECKS, PIPES, CONDUITS, CABLE TRAYS AND OTHER OBSTRUCTIONS WHICH, INDIVIDUALLY OR IN COMBINATION, CREATE AN OBSTRUCTION WHICH IS 48 INCHES OR MORE IN WIDTH.
- 20. DRAINAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13. ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT THE FIRE PROTECTION SYSTEMS MAY BE DRAINED. ALL DROPS TO MORE THAN ONE SPRINKLER HEAD AND ALL CHANGES IN ELEVATION THAT CREATE TRAPPED SECTIONS SHALL BE PROVIDED WITH AUXILIARY DRAINS IN ACCORDANCE WITH NFPA 13.
- 21. INSTALL PIPING TO ALLOW FOR GRAVITY DRAINAGE. 22. BEFORE ANY WORK STARTS, SUBMIT AND OBTAIN APPROVAL FROM THE AUTHORITY HAVING JURISDICTION (AHJ) OF THE INFORMATION, DATA, CALCULATIONS, DRAWINGS AND CATALOG CUTS AS REQUIRED BY NFPA 13 AND OTHER REQUIREMENTS AS MAY BE PROMULGATED BY AHJ.
- 23. SUBMIT DRAWINGS, CUTS AND CATALOG INFORMATION SHOWING DIMENSIONS, WEIGHT PERFORMANCE, ETC. OF ALL EQUIPMENT. 24. AFTER APPROVAL BY THE AHJ AND PRIOR TO BEGINNING WORK, SUBMIT SHOP
- DRAWINGS, AND CATALOG CUTS BEARING THIS APPROVAL TO THE OWNER AND DESIGN PROFESSIONAL FOR APPROVAL. 25. SUBMIT ALL SHOP DRAWINGS, CALCULATIONS AND CATALOG CUTS AT ONE TIME.
- PARTIAL SUBMISSIONS WILL NOT BE ACCEPTED. 26. SUBMIT DRAWINGS AND DETAILS SHOWING ALL PIPING MAINS, RUNS, BRANCHES, VALVES, DRAINS, SPRINKLERS AND ACCESSORIES FOR THE COMPLETE FIRE PROTECTION SYSTEM. ALSO SUBMIT THE MANUFACTURER'S NAME, FIGURE NUMBERS, OR OTHER MEANS OF IDENTIFICATION, OF ALL PIPE, FITTINGS, VALVES AND OTHER MATERIALS REQUIRED FOR THE INSTALLATION OF THE WORK.
- 27. TEST NEW AND MODIFIED SPRINKLER PIPING IN ACCORDANCE WITH NFPA 13. 28. ALL NEW SPRINKLER PIPING SHALL BE TESTED AND FLUSHED IN ACCORDANCE WITH NFPA 13 AND INSURANCE UNDERWRITER REQUIREMENTS. REPAIR ALL DAMAGE CAUSED BY LEAKS, FLOODING, OR DRAINING DURING OR TESTING WORK
- 29. SPRINKLER SYSTEM SHUTDOWNS SHALL BE KEPT TO A MINIMUM. COORDINATE SHUTDOWNS WITH AHJ, INSURANCE UNDERWRITER AND BUILDING OWNER'S REPRESENTATIVE.
- 30. MAINTAIN SPRINKLER SYSTEM SO THAT IT IS FULLY OPERATIONAL WHEN PROJECT IS OFFICIALLY ACCEPTED BY OWNER'S REPRESENTATIVE.
- 31. OBTAIN WRITTEN APPROVAL OF SPRINKLER SYSTEM INSTALLATION FROM AHJ AND OWNER'SINSURANCE UNDERWRITER AND SUBMIT ONE (1) COPY TO OWNER'S REPRESENTATIVE AND DESIGN PROFESSIONAL.
- 32. COMPLETE AND FORWARD CONTRACTOR'S MATERIAL AND TEST CERTIFICATE(S) TO AHJ, OWNER'S INSURANCE UNDERWRITER, DESIGN PROFESSIONAL AND OWNER'S REPRESENTATIVE.







VIKING DRY RISER MANIFOLD ASSEMBLY W/MANIFOLD BODY, FLOW SWITCH, PRESSURE GAUGE, DRY CHECK VALVE, TAMPER SWITCH AND ALARM TEST MODULE. PROVIDE RISER MOUNTED AIR COMPRESSOR 120V/1PH. -

> BASEMENT FLOOR

EXISTING SPRINKLER BRANCH LINE

1" X 1/2" PIPE

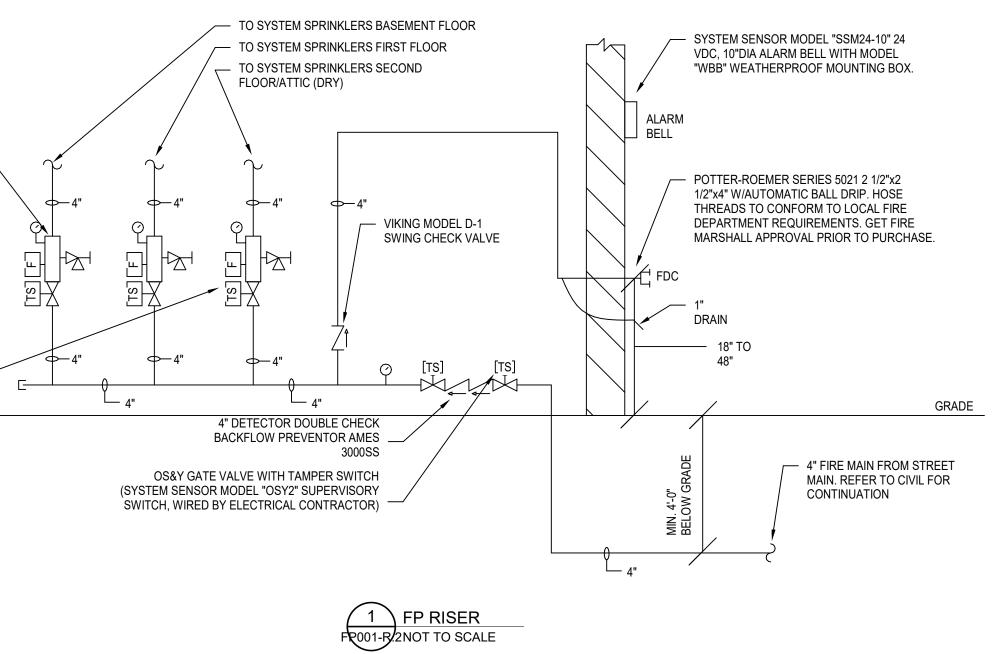


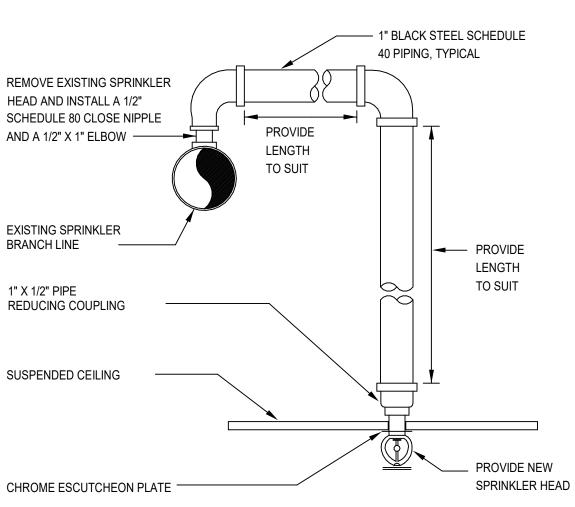


	SYMBOL	MANUFACTURER	SYSTEM TYPE	MODEL	TEMP. RATING F	MAX. WATER WORKIN PRESSURE	K-FACTOR	AREA OF SERVICE
	۲	VIKING	WET/DRY	MODEL VK110	155	175	MIN. 5.6	AS SHOWN ON FLOOR PLANS
	\bigtriangledown	VIKING	WET/DRY	MODEL VK307	155	175	MIN. 5.6	AS SHOWN ON FLOOR PLANS
)	•	VIKING	WET/DRY	MODEL VK462	155	175	MIN. 5.6	AS SHOWN ON FLOOR PLANS
	0	VIKING	WET/DRY	MODEL VK108	155	175	MIN. 5.6	AS SHOWN ON FLOOR PLANS

	SPRINKLER DESIGN CRITERIA					
	HAZARD	SYSTEM TYPE	DENSITY	REMOTE AREA	HEAD COVERAGE	SPRINKLER TYPE
/	LIGHT	WET	0.10	1,500 SF	225 SF. MAX	ALL ABOVE
×	ORD. GRP 1	WET	0.15	1,500 SF	130 SF MAX.	ALL ABOVE

AREA - XXX	
SYSTEM TYPE - WET	HAZARD: XXX
DENSITY - XXX	MIN. AREA - XXX
SPKR. TEMP ORDINARY	MAX. SF/HD - XXX

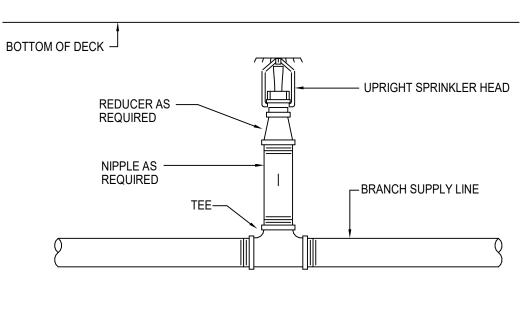




TYPICAL NEW SPRINKLER HEAD DROP SCALE: N.T.S. NOTES:

1. ADJUST SPRINKLER DROPS AS NECESSARY TO CLEAR OBSTRUCTIONS SUCH AS THE CEILING "T" BAR SUSPENSION SYSTEM, LIGHT FIXTURES, ETC. PROVIDE A PIPE HANGER IF THE HORIZONTAL OFFSET LENGTH EXCEEDS 24 INCHES.

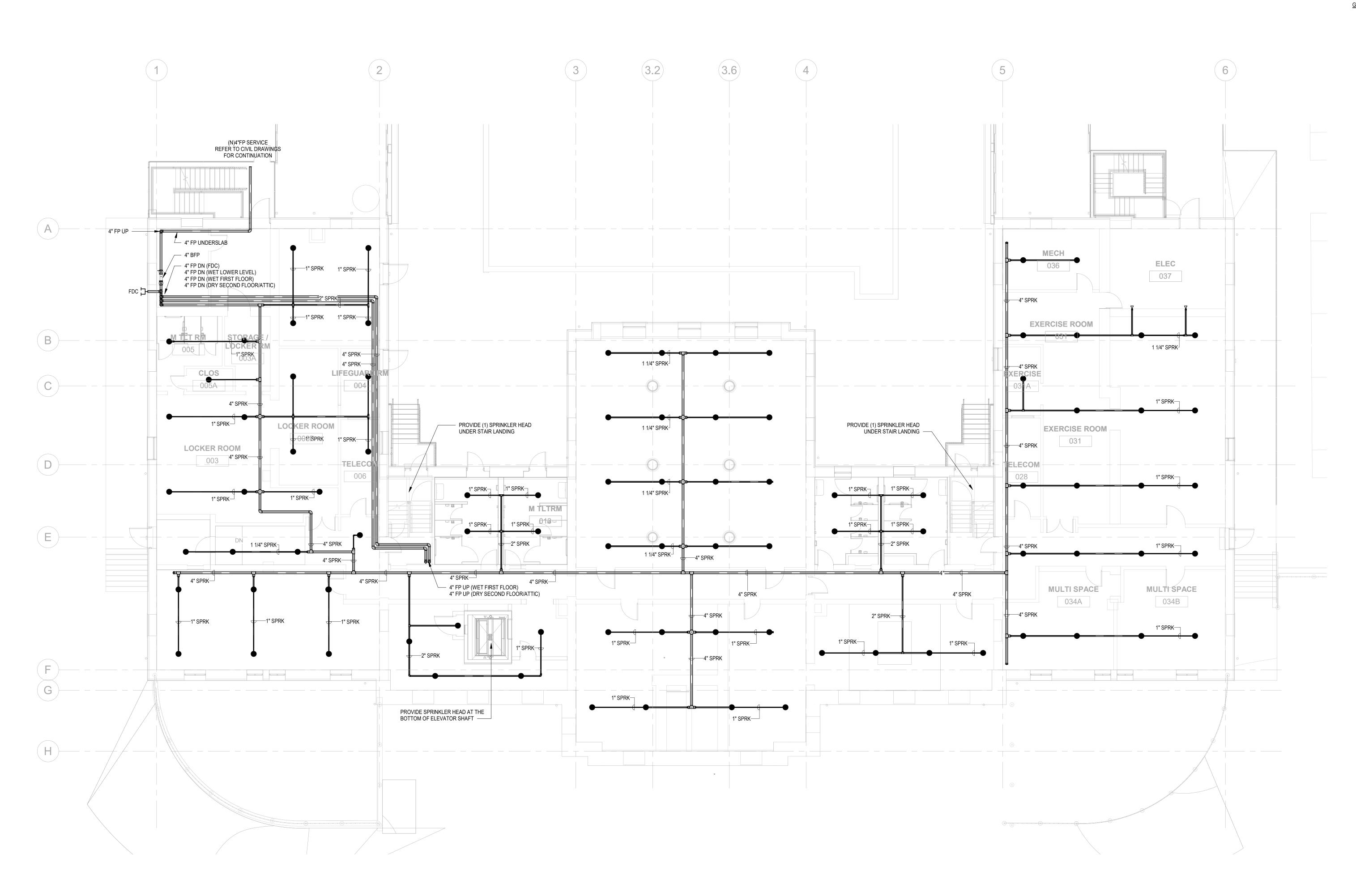
2. THIS SPRINKLER HEAD DROP IS APPLICABLE ONLY WHERE IT IS NOT NECESSARY TO RETAIN AN UPRIGHT SPRINKLER FOR PROTECTION OF COMBUSTIBLE CONSTRUCTION ABOVE THE CEILING.



UPRIGHT PENDANT SPRINKLER HEAD

SCALE: N.T.S.

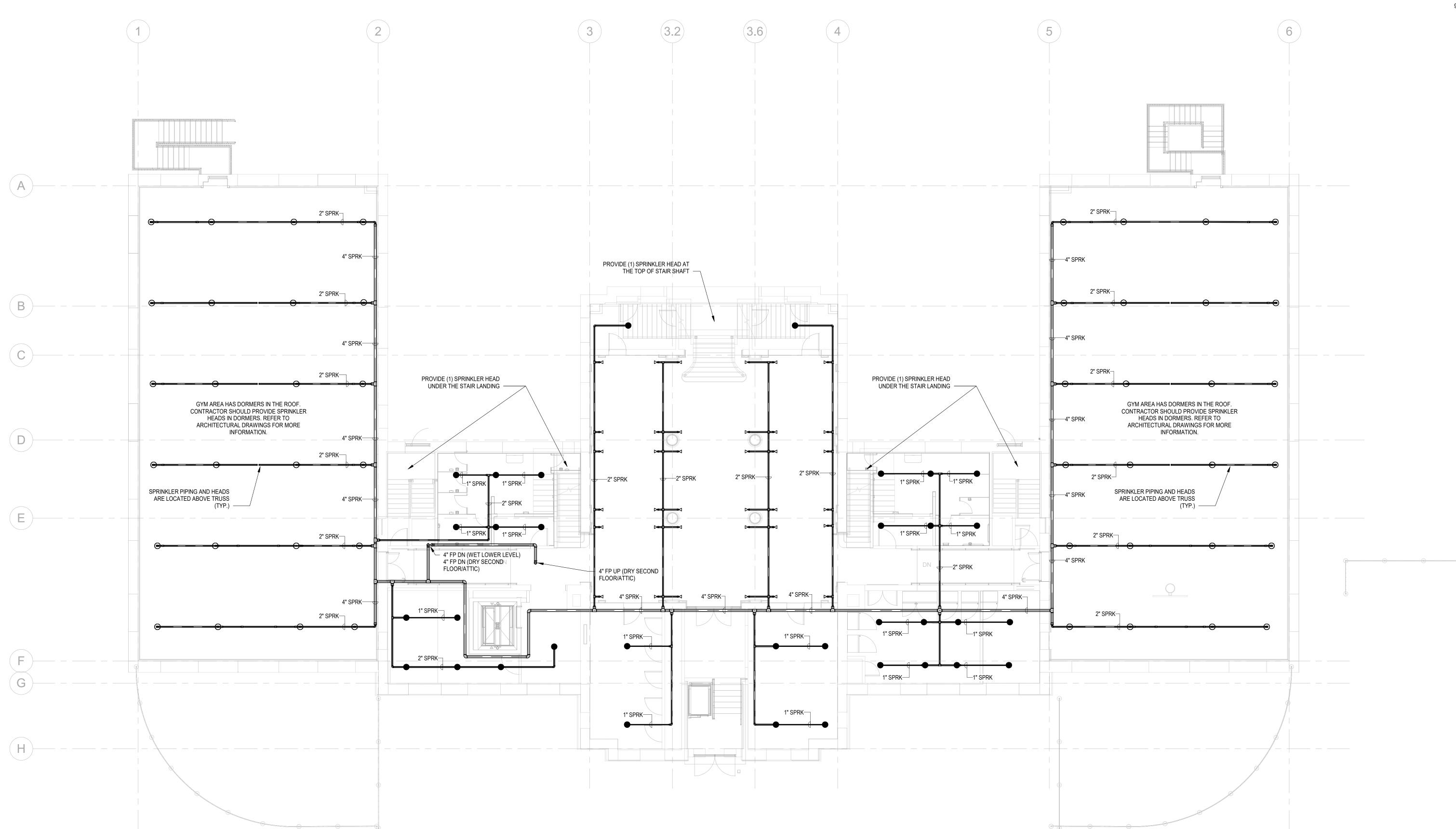




1 FIRE PROTECTION PROPOSED - REC CENTER LOWER LEVEL

- REFER TO FP001 FOR FIRE PROTECTION NOTES, LEGENDS, AND ABBREVIATIONS
 REFER TO SCHEDULES AND FIRE PROTECTION DETAILS
- 2. REFER TO SCHEDULES AND FIRE PROTECTION DETAILS PERTAINING TO THIS PROJECT.
 3. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE WORKING SYSTEM.
- WORKING SYSTEM.
 ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARENCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
- ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE INTERNATIONAL BUILDING CODE.
 COORDINATE FIRE ALARM RELATED INSTALLATION WITH
- COORDINATE FIRE ALARM RELATED INSTALLATION WITH ELECTRICAL CONTRACTOR AND DESIGN DRAWINGS.
 ALL VALVES SHALL BE INSTALLED TO BE ACCESSIBLE.
 ALL PIPE SIZES AND SPRINKLER HEAD LOCATIONS REPRESENTED ON THE DRAWINGS AND RISER DIAGRAMS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE REQUIRED SIZE PER HYDRAULIC
- CALCULATIONS. COORDINATE WITH LOCAL FIRE DEPARTMENT FOR FDC SIZE.9. ALL SPRINKLER HEADS IN GYM AREAS SHALL BE PROTECTED WITH CAGE COVERING.

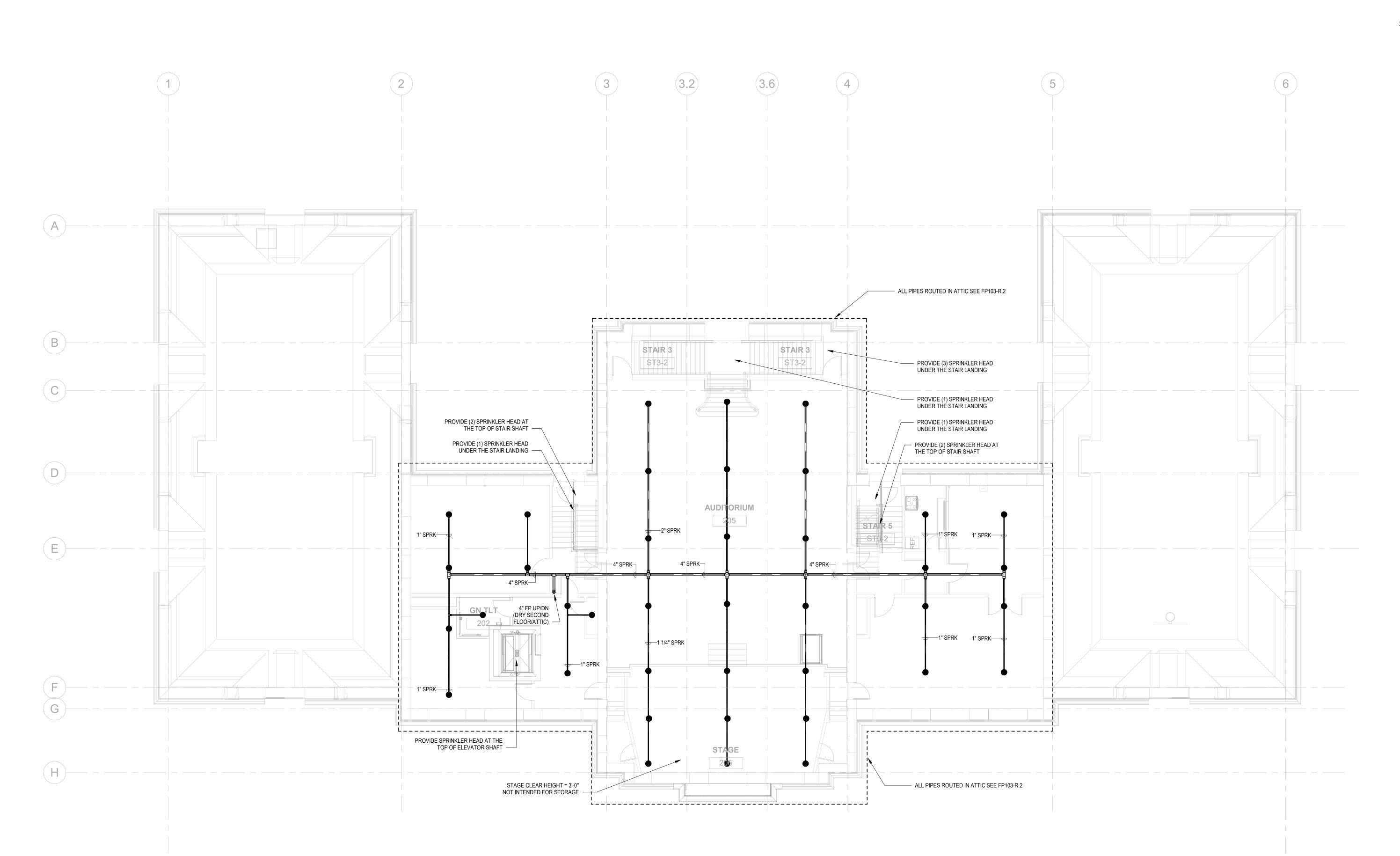




1 FIRE PROTECTION PROPOSED - REC CENTER FIRST FLOOR FP101-B/2 1/8" = 1'-0"

- REFER TO FP001 FOR FIRE PROTECTION NOTES, LEGENDS, AND ABBREVIATIONS
 REFER TO SCHEDULES AND FIRE PROTECTION DETAILS
- REFER TO SCHEDULES AND FIRE PROTECTION DETAILS PERTAINING TO THIS PROJECT.
 CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE
- WORKING SYSTEM. 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARENCES
- (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.5. ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE
- INTERNATIONAL BUILDING CODE. 6. COORDINATE FIRE ALARM RELATED INSTALLATION WITH ELECTRICAL CONTRACTOR AND DESIGN DRAWINGS.
- ALL VALVES SHALL BE INSTALLED TO BE ACCESSIBLE.
 ALL PIPE SIZES AND SPRINKLER HEAD LOCATIONS REPRESENTED ON THE DRAWINGS AND RISER DIAGRAMS
- ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE REQUIRED SIZE PER HYDRAULIC CALCULATIONS. COORDINATE WITH LOCAL FIRE DEPARTMENT FOR FDC SIZE.
 9. ALL SPRINKLER HEADS IN GYM AREAS SHALL BE PROTECTED WITH CAGE COVERING.

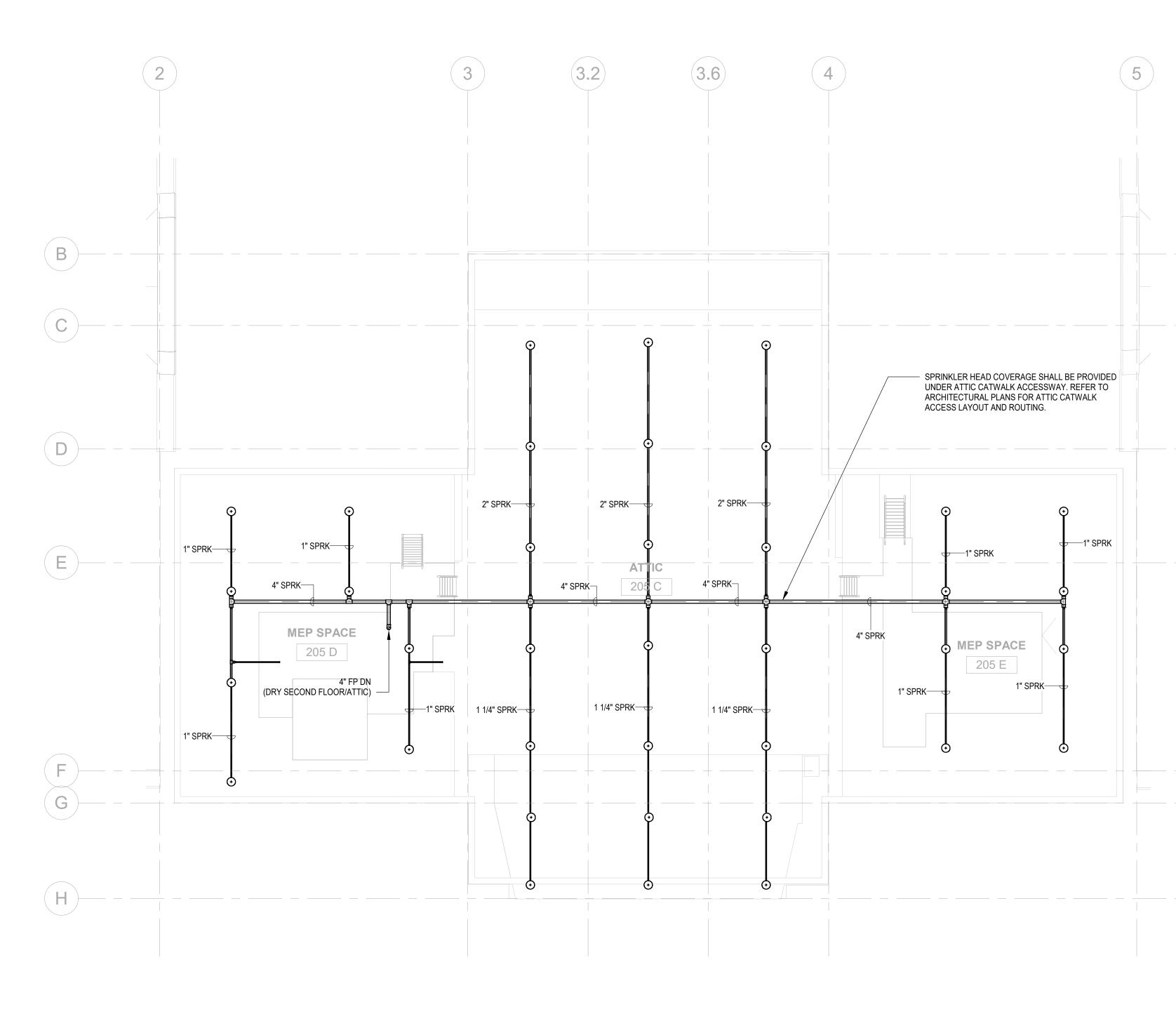




1 FIRE PROTECTION PROPOSED - REC CENTER SECOND FLOOR FP102-R/2 1/8" = 1'-0"

- 1. REFER TO FP001 FOR FIRE PROTECTION NOTES, LEGENDS, AND ABBREVIATIONS
- 2. REFER TO SCHEDULES AND FIRE PROTECTION DETAILS PERTAINING TO THIS PROJECT.
- 3. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE
- WORKING SYSTEM. 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARENCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE
- WRITTEN INSTRUCTIONS. 5. ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE
- INTERNATIONAL BUILDING CODE. 6. COORDINATE FIRE ALARM RELATED INSTALLATION WITH
- ELECTRICAL CONTRACTOR AND DESIGN DRAWINGS. 7. ALL VALVES SHALL BE INSTALLED TO BE ACCESSIBLE.
- 8. ALL PIPE SIZES AND SPRINKLER HEAD LOCATIONS REPRESENTED ON THE DRAWINGS AND RISER DIAGRAMS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE REQUIRED SIZE PER HYDRAULIC CALCULATIONS. COORDINATE WITH LOCAL FIRE DEPARTMENT
- FOR FDC SIZE. 9. ALL SPRINKLER HEADS IN GYM AREAS SHALL BE PROTECTED WITH CAGE COVERING.





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 FIRE PROTECTION PROPOSED - REC CENTER ATTIC

 FP103-B/2 1/8" = 1'-0"

- 1. REFER TO FP001 FOR FIRE PROTECTION NOTES, LEGENDS,
- AND ABBREVIATIONS
 2. REFER TO SCHEDULES AND FIRE PROTECTION DETAILS PERTAINING TO THIS PROJECT.
- 3. CONTRACTOR SHALL PROVIDE ALL REQUIRED PIPING, VALVES, & APPURTENANCES TO PROVIDE A COMPLETE
- WORKING SYSTEM. 4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARENCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE
- WRITTEN INSTRUCTIONS. 5. ALL PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL
- MAINTAIN THE FIRE RATING OF THE ASSEMBLY AS PER THE INTERNATIONAL BUILDING CODE. 6. COORDINATE FIRE ALARM RELATED INSTALLATION WITH
- ELECTRICAL CONTRACTOR AND DESIGN DRAWINGS. 7. ALL VALVES SHALL BE INSTALLED TO BE ACCESSIBLE. 8. ALL PIPE SIZES AND SPRINKLER HEAD LOCATIONS REPRESENTED ON THE DRAWINGS AND RISER DIAGRAMS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE THE REQUIRED SIZE PER HYDRAULIC
- CALCULATIONS. COORDINATE WITH LOCAL FIRE DEPARTMENT FOR FDC SIZE. ALL SPRINKLER HEADS IN GYM AREAS SHALL BE PROTECTED WITH CAGE COVERING.

