

# MECHANICAL GENERAL NOTES

## A. GENERAL CONDITIONS

- DRAWINGS AND GENERAL SPECIFICATIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS (IF PROVIDED AS PART OF THE CONTRACT) ARE A PART OF THIS CONTRACT.
- THE TERM "CONTRACTOR" SHALL MEAN THE "MECHANICAL CONTRACTOR Hired TO COMPLETE THE WORK OUTLINED IN THESE PLANS AND SPECIFICATIONS," UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR FOR THIS WORK IS REQUIRED TO REVIEW ALL DRAWINGS FOR ALL OTHER TRADES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR SUBCONTRACTORS WITH A FULL SET OF BID DOCUMENTS INCLUDING ALL DRAWINGS AND SPECIFICATIONS, STANDARD DRAWINGS, LATEST EDITIONS OF ASHRAE STANDARDS AND INSPECTION OF THEIR SUBCONTRACTORS WITH ALL OTHER TRADES ON SITE TO CONFORM WITH THE GENERAL CONTRACTOR'S TIME SCHEDULE.
- BY SUBMITTING A QUOTATION OR PROPOSAL, THE MECHANICAL CONTRACTOR EXPRESSLY STATES AND WARRANTS THAT ALL DRAWINGS AND SPECIFICATIONS HAVE BEEN THOROUGHLY REVIEWED AND THAT THE CONTRACTOR HAS BECOME FAMILIARIZED WITH JOB SITE CONDITIONS AND IS TOTALLY QUALIFIED TO PERFORM ALL OF THE WORK REQUIRED.
- BEFORE SUBMITTING A FINAL PROPOSAL, THE CONTRACTOR SHALL EXAMINE THE SET OF THE PROPOSED WORK TO DETERMINE THE EXISTING CONDITIONS THAT MAY AFFECT THE PROPOSAL. IF DISCREPANCIES ARE NOTED BETWEEN THE DOCUMENTS AND THE EXISTING CONDITIONS THE ARCHITECT SHALL BE NOTIFIED AND THE CONTRACTOR SHALL RECEIVE CLARIFICATION BEFORE SUBMITTING A BID. THE SUBMISSION OF A PROPOSAL SHALL INDICATE THAT ALL CHARGES AND COSTS MADE NECESSARY BY EXISTING CONDITIONS ARE INCLUDED AND THAT THE COMPLETE SYSTEM AS DESCRIBED HEREIN WILL BE FURNISHED AT THE PROPOSED COST.

## B. RECORD DRAWINGS

- THE MECHANICAL CONTRACTOR SHALL MAINTAIN ONE COPY OF DRAWINGS AND SPECIFICATIONS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS LOCATIONS OF CONCEALED PIPING, VALVES AND DUCTS, REVISIONS, ADDENDUMS AND CHANGE ORDERS, SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED SUBSTITUTIONS AND CONTRACTOR WORK WITH OTHER TRADES AND EXACT ROUTING OF ALL SANITARY AND DOMESTIC WATER PIPING UNDER FLOOR.
- AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, THE CONTRACTOR SHALL MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. THE DRAWINGS ARE TO BE TURNED OVER TO THE TENANT.

## C. GUARANTEE WARRANTY

- THE MECHANICAL CONTRACTOR SHALL INCLUDE IN THE PROPOSAL A ONE YEAR GUARANTEE WARRANTY ON ALL EQUIPMENT AND MATERIAL INSTALLED OR REFURNISHED, ALL MATERIALS AND WORK UNDER THE CONTRACT AND SHALL MAKE GOOD REPAIR OR REPLACE AT THEIR OWN EXPENSE ANY DEFECTIVE OR ACCESSIBLE EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF WRITTEN ACCEPTANCE OF THE INSTALLATION BY THE TENANT'S CONSTRUCTION MANAGER, IN CASE OF REPLACEMENT OR REPAIR OF EQUIPMENT DUE TO FAILURE WITHIN THE GUARANTEE PERIOD. THE GUARANTEE PERIOD FOR THAT PORTION OF THE WORK SHALL BE EXTENDED FOR A PERIOD OF 12 MONTHS FROM THE DATE OF SUCH REPLACEMENT OR REPAIR. THIS GUARANTEE WARRANTY IS TO INCLUDE ALL LABOR, MATERIALS, PARTS, ETC. NECESSARY TO MAINTAIN THE SYSTEM IN SATISFACTORY OPERATION FOR A PERIOD OF ONE YEAR STARTING FROM THE DATE OF ACCEPTANCE OF THE INSTALLATION BY THE TENANT. IT SHALL ALSO INCLUDE ONE SUMMER TO ONE WINTER PER YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NORMAL PREVENTATIVE MAINTENANCE WORK SHALL BE PERFORMED AT THE TIME OF THE FILTER CHANGE. USE ONLY #40 PLEATED TYPE AIR FILTERS.

## D. OPERATIONS MANUALS

- ONE COPY OF EACH OPERATION AND MAINTENANCE MANUAL FOR ALL EQUIPMENT FURNISHED FOR THE JOB SHALL BE PROVIDED TO THE TENANT BOUND TOGETHER IN A 3" X 11" THREE RING BINDER. THE BINDER SHALL INCLUDE BIDDING AND INSTALLATION INSTRUCTIONS, OPERATION, MAINTENANCE AND PARTS CATALOGS, OPERATION MANUALS, BROCHURES, REWINDED SHOP DRAWINGS AND DRAWINGS OBTAINED FROM EACH MANUFACTURER OF PRINCIPAL ITEMS OF EQUIPMENT.

## E. SLEEVES

- THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR WALL, OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2 INCHES ABOVE THE FLOOR.
- ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND / OR FLOORS SHALL BE FIRE SEALED WITH APPROVED SEALANTS RATED FOR THE APPLICATION SO AS TO MAINTAIN THE FIRE RATINGS OF THE ASSEMBLY, CONFORM TO THE U.L. ASSEMBLY RATINGS OF THE FLOOR OR WALL.
- SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES, OR OTHER TYPES OF MASONRY PARTITIONS, THROUGHOUT THE ENTIRE PROJECT FOR CONCEALED VERTICAL PIPING. SLEEVES SHALL BE 22 GAUGE GALVANIZED STEEL, MINIMUM.
- DUCT SLEEVES SHALL BE MINIMUM 1/4" GAUGE STEEL.

## F. HANDIERS

- HANDERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS ANGLE, IRON, BANDS, CLAMP WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC. NECESSARY FOR THE INSTALLATION OF WORK.
- HANDERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING OR DUCTWORK. DUCTWORK SHALL NOT BE SUPPORTED FROM ROOF DECKING AND/OR BRIDGES, BUT SHALL BE SUSPENDED FROM THE TOP CHORD OF BAR JOISTS, STEEL OR OTHER STRUCTURE. DUCTWORK SHALL CLEAR ALL SPRINKLERS AND OTHER OBSTACLES AND SHALL BE HUNG AS HIGH AS POSSIBLE IN WORK AND STORAGE AREAS WHERE INTERFERENCES OCCUR. IN ORDER TO SUPPORT DUCTWORK OR PIPING, THE CONTRACTOR SHALL INSTALL TRUSSES, TIE-BEAMS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, ACCESS DOORS AND OTHER EQUIPMENT SERVICE REQUIREMENTS AND/OR OTHER TRADES. HANGER TYPES AND INSTALLATION METHODS ARE SUBJECT TO LANDLORD CRITERIA.
- HANDERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL A 1/2" HOLE SPILT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.
- HANDERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED FROM ONE ANOTHER.

## G. ACCESS DOORS

- FURNISH SHOP ACCESS DOORS AND FRAMES, MINIMUM 16 INCHES BY 20 INCHES OR AS REQUIRED FOR ACCESS TO THE GENERAL CONTRACTOR FOR ALL LOCATIONS WHERE NECESSARY TO PROVIDE ACCESS TO CONCEALED VALVES AND OTHER EQUIPMENT REQUIRING SERVICE OR INSPECTION. LOCATION, TYPE, FINISH AND LOCKING WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE TENANT CONSTRUCTION MANAGER TO SUIT EQUIPMENT REQUIREMENTS. GENERAL CONTRACTOR SHALL INSTALL ACCESS DOORS AND FRAMES.
- ACCESS DOORS LOCATED IN FIRE-RATED WALLS, FLOORS, CEILING-FLOOR, OR CEILING-ROOF ASSEMBLIES SHALL BE FIRE RATED, U.L. LISTED AND LABELED.
- ACCESS DOORS SHALL BE FLUSH TYPE, MANUFACTURED FROM 16 GAUGE STEEL, COMPLETE WITH FLUSH FLANGE TYPE FRAMES MANUFACTURED FROM 16 GAUGE STEEL, PROVIDED WITH ANCHORS. ACCESS DOORS SHALL BE AVAILABLE FOR INSTALLATION IN WALL OR CEILING MATERIALS SHOWN IN ROOM FINISH SCHEDULES. PROVIDE ACCESS DOORS FOR ALL CONCEALED VALVES, VENTS, DAMPERS, FIRE DAMPERS, EXPANSION JOINTS, PULL BOXES, SHOCK ABSORBERS, DRAIN MOTORS, FAN PUMPS AND ANY OTHER EQUIPMENT. ACCESS DOORS IN PLASTER OR CONCRETE SURFACES SHALL HAVE A RECESSED DOOR WITH CONCRETE OR PLASTER FACING DOORS IN CARPETED OR TILE AREAS SHALL BE RECESSED WITH THE FLOOR. NO ACCESS DOORS ARE REQUIRED IN 2" X 2" AND 2" X 4" LAY-IN ACoustic TILE CEILING. PROVIDE COULD PINS TO DENOTE ACCESS TILES. FURNISH FACTORY MADE ACCESS DOORS, COMPLETELY FLUSH, "ALLAN HEAD" SCREWDRIVER OPERATED WITH FRAMES AND CAM-LATCH CATCH WITH STAINLESS STEEL STUD. DOORS SHALL BE 1" X 1" FOR HAND ACCESS. DOORS IN WALLS AND CEILING SHALL BE PRIME COATED CARBON STEEL. FURNISH FIRE RATED DOORS FOR FIRE RATED EQUIPMENT. RATING OF DOOR MUST BE SAME RATING AS STRUCTURE.

## H. ELECTRIC MOTORS

- FURNISH, INSTALL AND ALIGN ALL MOTORS REQUIRED FOR THIS EQUIPMENT, UNLESS THEY ARE FACTORY INSTALLED ON THE UNIT. ALL STARTERS AND ASSOCIATED WIRING AND SAFETY SWITCHES FOR SUCH MOTORS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. STARTERS SHALL MEET ALL REQUIREMENTS AS DEFINED IN THE ELECTRICAL SPECIFICATIONS.
- DESIGN, CONSTRUCTION AND PERFORMANCE CHARACTERISTICS OF MOTORS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF LATEST NEMA ANSI, IEEE STANDARDS FOR ELECTRICAL EQUIPMENT. ALL MOTORS SHALL BE SUITABLE FOR OPERATION ON VOLTAGE VARIATION OF PLUS OR MINUS 10 PERCENT, 40 DEGREES C AMBIENT TEMPERATURE AND HAVE A SERVICE FACTOR OF NOT LESS THAN 1.15.

## I. LOW VOLTAGE (24 VOLT) WIRING

- THE CONTRACTOR IS TO INSTALL ALL LOW VOLTAGE WIRING REQUIRED FOR THEIR EQUIPMENT. THIS WORK INCLUDES ALL TRANSFORMERS AND DEVICES TO MAKE THIS A COMPLETE FUNCTIONAL SYSTEM.
- ALL WORK IS TO CONFORM TO THE ELECTRICAL SPECIFICATIONS AND THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
- ANY CONDUIT REQUIRED BY CODE OR THE LANDLORD WILL BE INSTALLED BY THE ELECTRICAL SUBCONTRACTOR.
- SMOKE DETECTORS AND REMOTE TEST STATION:

- KNOWING TYPE ARE TO BE USED ON THE RETURN SIDE OF THE AHU AND PHOTO-DUCT TYPE ARE TO BE USED ON THE SUPPLY SIDE. ON ALL OTHER TYPES OF HVAC UNITS WHERE SMOKE DETECT TYPE ARE TO BE USED ON THE DUCTWORK WITH FIRE RESISTIVE ADHESIVES AND CADDIM OR COPPER PLATED MECHANICAL FASTENERS.
- PORTIONS OF SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEAT OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSTALLED TO A MINIMUM INSTALLED LEVEL OF R-8: A. OUTDOORS; OR B. IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR C. IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR D. IN AN UNCONDITIONED CRAWLSPACE; OR E. IN OTHER UNCONDITIONED SPACES.

## J. HEATING, VENTILATION AND AIR CONDITIONING

- BEFORE STARTING WORK, THIS CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS TO SEQUENCE, COORDINATE AND INTEGRATE THE VARIOUS ELEMENTS OF THE HVAC SYSTEM, MATERIALS AND EQUIPMENT WITH OTHER CONTRACTORS TO AVOID INTERFERENCES AND CONFLICTS.
- ALL INSULATION ON EXISTING PIPING OR DUCTS THAT BECOMES WET, DAMAGED, DISTURBED OR GETS REMOVED SHALL BE REPLACED.
- INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS AND IN ACCORDANCE WITH RECOMMENDED INDUSTRY PRACTICES. INSULATION SHALL CONFORM WITH NFPA 90A.
- ALL INSULATION SHALL HAVE A FLAME SPREAD RATINGS OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO HIGHER THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM TEST: C411 OR AS REQUIRED BY LOCAL CODES.
- EXTERIOR SUPPLY AND RETURN DUCT INSULATION:

- SERVICE RECTANGULAR, SUPPLY-AIR AND RETURN-AIR DUCTS:
  - MATERIAL: INSULATION BOARD, 6 PSF MINIMUM AND PLAN FINISH.
  - THICKNESS: 2 INCHES.
  - NUMBER OF LAYERS: TWO.
  - TEST: PERFORMED IN ACCORDANCE WITH ASTM TEST: C411.
  - VAPOR RETARDER REQUIRED: YES.
- INORGANIC GLASS FIBERS PREFORMED AND BONDED BY THERMOSETTING RESIN. MUST COMPLY WITH ASTM C 612, TYPE 1A-18, KNAUF INSULATION OR APPROVED EQUIVALENT.
- INSULATION INSTALLED OUTDOORS: FLAME SPREAD RATINGS OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS.
- APPLY INSULATION AS FOLLOWS:
  - ON EXPOSED APPLICATIONS, FINISH INSULATION WITH A SKIM COAT OF MINERAL-FIBER, HYDRAULIC-SETTING GEMENT TO SURFACE OF INSTALLED INSULATION, WHEN DRY, APPLY 1/2" COAT OF LAGGING ADHESIVE AND PRESS ON ONE LAYER OF GLASS CLOTH OR TAPE, OVERLAP EDGES AT LEAST 1" INCH (25 MM). APPLY FINISH INSULATION LAGGING ADHESIVE OVER GLASS CLOTH OR TAPE. THIS FINISH COAT TO ACHIEVE SMOOTH FINISH. OUTDOOR JACKET: POLYGLASS PRODUCTS, INC. "ALUMAGUARD 80" OR IFM BUILDING PRODUCTS CORP. "FLEXGLAZ 400".

## K. SYSTEM CLEANOUT

- ON COMPLETION OF INSTALLATION, CLEAN ENTIRE SYSTEM BEFORE INSTALLING AIR OUTLETS. CONTRACTOR TO ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC.
- FILTERS MUST BE UNITS AT ANY TIME FANS ARE OPERATED.

## L. CURBS AND STEEL FRAMING FOR SUPPORT

- THIS CONTRACTOR WILL PROVIDE ALL NECESSARY CURBS AND STEEL FRAMING REQUIRED TO INSTALL ALL HVAC EQUIPMENT. CURBS SHALL BE A MINIMUM OF 14 INCHES HIGH AND OF THE SAME MANUFACTURER AS THE EQUIPMENT SUPPORTED. INSULATE UNDER THE CURBRESSOR SIDE TO PREVENT CONDENSATION. ALL CURBS MUST BE INSTALLED SO THAT THE TOP OF CURBS ARE "HEAD" LEVEL. ALL PENETRATIONS OF EXISTING

- STRUCTURE SHALL BE DONE IN ACCORDANCE WITH THE LANDLORD'S PERMITS/LINES AT THIS CONTRACTOR'S EXPENSE. ALL CONNECTIONS TO ROOFTOP EQUIPMENT SHALL BE INSIDE THE CURB (CONDENSATE DRAIN, POWER WIRING, CONTROL WIRING, ETC.).
- THE CONTRACTOR SHALL REFORM NO PORTION OF THE CONTRACT DOCUMENTS WHICH REQUIRE SUBMITTAL AND REVIEW OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNTIL THE RESPECTIVE SUBMITTAL HAS BEEN APPROVED BY THE ARCHITECT.
- THE WORK SHALL BE IN ACCORDANCE WITH APPROVED SUBMITTALS EXCEPT THAT THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS BY ANY APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE CLIENT IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMITTAL AND:
  - THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION AS A MINOR CHANGE IN THE WORK OR
  - A CHANGE ORDER OR CONSTRUCTION CHANGE DIRECTIVE HAS BEEN ISSUED AUTHORIZING THE DEVIATION.
- DURING THE CONSTRUCTION PHASE OF THE PROJECT, ANY DUCTWORK INSTALLED IS TO BE COMPLETELY SEALED UP FOR ANY OPENINGS, EITHER AT THE BEGINNING OR END OF A DUCT RUN OR AT A BRANCH, COLLAR, DIFFUSER OR REGISTER TO AVOID DIRT OR OTHER CONTAMINANTS FROM ENTERING THE SYSTEM.
- EXCEPT WHERE OTHERWISE INDICATED, CONNECTING DUCT SYSTEMS TO 2-INCH WATER GAUGE PRESSURE, PRESSURE TEST DUCTS FOR LEAKAGE, REMOVE LEAKING JOINTS AND APPLY SEALANTS AS REQUIRED TO FABRICATE A SYSTEM THAT DOES NOT EXCEED 5 PERCENT LEAKAGE OR LESS AS SPECIFIED BY PRESSURE CLASS RATINGS IN SMACNA STANDARDS.
- AS A MINIMUM, CROSSBREAK ALL FLAT SURFACES OR REINFORCE WITH A BEAM APPROXIMATELY 3/8 INCH WIDE BY 3/8 INCH DEEP ON 12" CENTER SPACING TO PREVENT VIBRATIONS.
- INSTALL ROUND, ROUND AND RECTANGULAR METAL DUCT WITH SUPPORT SYSTEMS INDICATED IN SMACNA STANDARDS. NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES OR BY LANDLORD.
- WHERE DUCTS PASS THROUGH ROOF, FLOORS AND FIRE RATED PARTITIONS, PROVIDE AS MINIMUM 1-1/2 INCH (38 MM) HIGH STEEL OR INCH STEEL BEAM FRAMES AT EACH SIDE OF OPENING. THE ANNUAL SPACE BETWEEN DUCT AND ANGLE FRAMES SHALL BE CALKED WITH SILICONE SEALANT OR FIREPROOF AS REQUIRED BY THE ARCHITECT OR FIRE RATING. PROVIDE FIRE OR COMBINATION FIRE / SMOKE DAMPERS AT EACH PENETRATION WHERE REQUIRED BY CODE.
- ALL TRAVERSE JOINTS AND SEAMS IN SUPPLY AIR DUCT SHALL BE SEALED AIR-TIGHT WITH DAP CMC DUCT SEALER. JOINTS ALSO SHALL BE REVETED OR CONNECTED WITH SHEET METAL SCREWS.
- SOFT ELASTOMER BUTYL GASKETS WITH ADHESIVE BACKING SHALL BE USED TO SEAL FLANGED JOINTS.
- DUCT TRANSITIONS SHALL NOT EXCEED 90 DEGREE SLOPE EXCEPT AS SPECIALLY NOTED OTHERWISE.
- PROVIDE ACCESS TO ALL MOTORIZED DAMPERS, FIRE DAMPERS, FIRE / SMOKE DAMPERS, CONTROLS AND OTHER ITEMS IN DUCTWORK THAT REQUIRE SERVICE OR INSPECTION. IF THE ACCESS PANEL LOCATION IS EXPOSED TO THE PUBLIC AREA, IT MUST BE APPROVED BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION. LAY-IN SUPPLY AND RETURN AIR DIFFUSERS, GRILLES AND REGISTERS WITH PLASTER FRAMES MAY BE USED AS ACCESS LOCATIONS.
- ALL BRANCHES AND TAKEOFFS SHALL BE EQUIPPED WITH MANUAL, VOLUME CONTROLLING DEVICES HAVING AN INDICATING AND LOCKING DEVICE.
- DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.

## M. DISCREPANCIES IN DOCUMENTS

- DRAWINGS (PLANS AND SPECIFICATIONS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS WHERE DRAWING, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONTACT OR ARE IN CONFLICT WITH THE CONTRACT DOCUMENTS. PRIOR TO SUBMITTAL OF BID, THE GENERAL CONTRACTOR IS RESPONSIBLE TO ADVISE THE TENANT'S CONSTRUCTION MANAGER IN WRITING OF VARIATIONS TO THE CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, TENANT'S CONSTRUCTION MANAGER'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

## N. TRADE NAMES AND MANUFACTURERS

- WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM STANDARD FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUIVALENT OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO REVIEW IN WRITING BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO ACCEPTANCE. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

## O. SHOP DRAWINGS

- SUBMIT THREE COPIES OF MATERIAL LISTS AND SHOP DRAWINGS FOR ALL EQUIPMENT AND DUCT FABRICATION DRAWINGS TO THE TENANT'S CONSTRUCTION MANAGER FOR REVIEW PRIOR TO ORDERING EQUIPMENT. SUBMISSIONS MUST BE EARLY ENOUGH TO ALLOW THE TENANT'S CONSTRUCTION MANAGER EIGHT WORKING DAYS FOR REVIEW WITHOUT CAUSING DELAYS OR CONFLICTS TO THE JOB'S PROGRESS. SUBMITTALS SHALL BE IN ACCORDANCE WITH THE GENERAL CONDITIONS USING THE MANUFACTURERS LISTED ON THE DRAWINGS. SHOP DRAWINGS SHALL INCLUDE ALL DATA THAT PERTAINS TO THE REQUIREMENTS SET FORTH ON THE DRAWINGS AND IN THE SPECIFICATIONS. THE SUBMITTAL SHALL INCLUDE BUT NOT BE LIMITED TO CUTS OR CATALOGS INCLUDING DESCRIPTIVE LITERATURE AND CHARACTERISTICS OF EQUIPMENT SHALL SHOW MAJOR DIMENSIONS, HOUGH-IN DATA, CAPACITY CURVES, PRESSURE DROPS, CODE COMPLIANCE, MOTOR AND DRIVE DATA AND ELECTRICAL DATA. OBSERVE SPECIAL INSTRUCTIONS AND COMMENTS. SUBMITTALS SHALL BEAR THE STAMP OF THE GENERAL AND SUBCONTRACTOR SHOWING THAT HE HAS REVIEWED AND CONFIRMED THAT THEY ARE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS OR INDICATE WHERE EXCEPTIONS TAKE PLACE. LACK OF SUCH CONTRACTORS' REVIEW WILL BE CAUSE FOR REJECTION WITHOUT REVIEW BY TENANT'S CONSTRUCTION MANAGER. ALL SHOP DRAWINGS MUST APPEAR IN THE OPERATION AND MAINTENANCE MANUALS LEFT ON SITE AT JOB COMPLETION.

- BY SUBMITTING SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND SIMILAR SUBMITTALS, THE CONTRACTOR REPRESENTS TO THE CLIENT AND ARCHITECT THAT THE CONTRACTOR HAS (1) REVIEWED AND APPROVED THEM, (2) DETERMINED AND VERIFIED MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO, OR WILL DO SO AND (3) CHECKED AND COORDINATED THE INFORMATION CONTAINED WITHIN SUCH SUBMITTALS WITH THE REQUIREMENTS OF THE WORK AND OF THE CONTRACT DOCUMENTS.

- THE CONTRACTOR SHALL REFORM NO PORTION OF THE CONTRACT DOCUMENTS WHICH REQUIRE SUBMITTAL AND REVIEW OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNTIL THE RESPECTIVE SUBMITTAL HAS BEEN APPROVED BY THE ARCHITECT.
- THE WORK SHALL BE IN ACCORDANCE WITH APPROVED SUBMITTALS EXCEPT THAT THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS BY ANY APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE CLIENT IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMITTAL AND:
  - THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION AS A MINOR CHANGE IN THE WORK OR
  - A CHANGE ORDER OR CONSTRUCTION CHANGE DIRECTIVE HAS BEEN ISSUED AUTHORIZING THE DEVIATION.
- DURING THE CONSTRUCTION PHASE OF THE PROJECT, ANY DUCTWORK INSTALLED IS TO BE COMPLETELY SEALED UP FOR ANY OPENINGS, EITHER AT THE BEGINNING OR END OF A DUCT RUN OR AT A BRANCH, COLLAR, DIFFUSER OR REGISTER TO AVOID DIRT OR OTHER CONTAMINANTS FROM ENTERING THE SYSTEM.
- EXCEPT WHERE OTHERWISE INDICATED, CONNECTING DUCT SYSTEMS TO 2-INCH WATER GAUGE PRESSURE, PRESSURE TEST DUCTS FOR LEAKAGE, REMOVE LEAKING JOINTS AND APPLY SEALANTS AS REQUIRED TO FABRICATE A SYSTEM THAT DOES NOT EXCEED 5 PERCENT LEAKAGE OR LESS AS SPECIFIED BY PRESSURE CLASS RATINGS IN SMACNA STANDARDS.
- AS A MINIMUM, CROSSBREAK ALL FLAT SURFACES OR REINFORCE WITH A BEAM APPROXIMATELY 3/8 INCH WIDE BY 3/8 INCH DEEP ON 12" CENTER SPACING TO PREVENT VIBRATIONS.
- INSTALL ROUND, ROUND AND RECTANGULAR METAL DUCT WITH SUPPORT SYSTEMS INDICATED IN SMACNA STANDARDS. NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE SWAY AND SEISMIC BRACING AS REQUIRED BY STATE AND LOCAL CODES OR BY LANDLORD.
- WHERE DUCTS PASS THROUGH ROOF, FLOORS AND FIRE RATED PARTITIONS, PROVIDE AS MINIMUM 1-1/2 INCH (38 MM) HIGH STEEL OR INCH STEEL BEAM FRAMES AT EACH SIDE OF OPENING. THE ANNUAL SPACE BETWEEN DUCT AND ANGLE FRAMES SHALL BE CALKED WITH SILICONE SEALANT OR FIREPROOF AS REQUIRED BY THE ARCHITECT OR FIRE RATING. PROVIDE FIRE OR COMBINATION FIRE / SMOKE DAMPERS AT EACH PENETRATION WHERE REQUIRED BY CODE.
- ALL TRAVERSE JOINTS AND SEAMS IN SUPPLY AIR DUCT SHALL BE SEALED AIR-TIGHT WITH DAP CMC DUCT SEALER. JOINTS ALSO SHALL BE REVETED OR CONNECTED WITH SHEET METAL SCREWS.
- SOFT ELASTOMER BUTYL GASKETS WITH ADHESIVE BACKING SHALL BE USED TO SEAL FLANGED JOINTS.
- DUCT TRANSITIONS SHALL NOT EXCEED 90 DEGREE SLOPE EXCEPT AS SPECIALLY NOTED OTHERWISE.
- PROVIDE ACCESS TO ALL MOTORIZED DAMPERS, FIRE DAMPERS, FIRE / SMOKE DAMPERS, CONTROLS AND OTHER ITEMS IN DUCTWORK THAT REQUIRE SERVICE OR INSPECTION. IF THE ACCESS PANEL LOCATION IS EXPOSED TO THE PUBLIC AREA, IT MUST BE APPROVED BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION. LAY-IN SUPPLY AND RETURN AIR DIFFUSERS, GRILLES AND REGISTERS WITH PLASTER FRAMES MAY BE USED AS ACCESS LOCATIONS.
- ALL BRANCHES AND TAKEOFFS SHALL BE EQUIPPED WITH MANUAL, VOLUME CONTROLLING DEVICES HAVING AN INDICATING AND LOCKING DEVICE.
- DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.

## P. FLEXIBLE CONNECTIONS

- FLEXIBLE JOINTS SHALL BE PROVIDED ON ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT (FANS, ROOFTOP UNITS, WATER SOURCE HEAT PUMPS, AIR HANDLERS, FAN POWERED VAV BOXES, ETC.) AND DUCTS OR CASINGS. PROVIDE FLEXIBLE CONNECTIONS WHERE DUCTS CROSS THROUGH EXISTING STRUCTURES, PARTITIONS, BROCHURES, REWINDED SHOP DRAWINGS AND DRAWINGS OBTAINED FROM EACH MANUFACTURER OF PRINCIPAL ITEMS OF EQUIPMENT.
- FLEXIBLE CONNECTIONS ARE TO BE RATED FOR THE OPERATING PRESSURE OF THE SYSTEM.
- FINAL CONNECTIONS TO EXHAUST FANS) SHALL BE WITH A HEAVY AIRTIGHT ACoustic RESISTANT FIRE RETARDANT FIBERGLASS NEOPRENE CONNECTOR, A MINIMUM OF SIX (6) INCHES IN LENGTH, THE CONNECTOR SHALL BE FASTENED TO EQUIPMENT AND DUCT WITH TWO FLEXIBLE REMOVABLE BRASS STRAPS OR ALTERNATE APPROVED METHOD.

## Q. THERMOSTATS

- SHOUL THERMOSTATS 4'-0" (ADA-COMPLIANT, THERMOSTAT SENSORS 5'-0" ABOVE FINISHED FLOORS, OR AS SHOWN ON THE PLANS, AND SET DATE, TIME, TEMPERATURE, ETC. TURN OVER DURING INSTRUCTIONS TO THE TENANT REPRESENTATIVE.
- FLEXIBLE DAMPERS, SMOKE DAMPERS

## R. SUPPLY AND RETURN AIR TAKEOFF FITTINGS

- RECTANGULAR DUCT:
  - PROVIDE 45-DEGREE RECTANGULAR TAKEOFFS FROM MAIN DUCTWORK TO RECTANGULAR BRANCHES.
- SPIRAL DUCT:
  - PROVIDE SADDLE OR DIRECT CONNECTION OF A BRANCH DUCT INTO A LARGER DUCT. THE DIAMETER OF THE BRANCH SHALL NOT EXCEED TWO THIRDS OF THE DIAMETER OF THE MAIN. PROTRUSIONS INTO THE MAIN ARE NOT ALLOWED.

## S. DAMPERS, GRILLES AND REGISTERS

- PROVIDE DIFFUSERS, GRILLES AND REGISTERS AS SCHEDULED. DEVICES TO BE COMPLETE WITH FRAMES AND ALL ACCESSORIES. ALL DIFFUSERS, GRILLES AND REGISTERS IN SHEET ROOF CEILINGS TO BE PROVIDED WITH PLASTER FRAMES. FINISH TO BE COORDINATED WITH INTERIOR FINISHES.
- INSTALL ALL AIR SERVICES AS LOCATED ON THE ARCHITECTURAL REFLECTED CEILING PLAN OR THE MECHANICAL PLAN.

## T. DUCTWORK INSULATION

- ALL NEW SUPPLY AND RETURN AIR DUCTWORK WITHIN 10' OF HVAC UNIT SHALL BE ACoustICALLY LINED. DUCT SIZES SHOWN ON THE DRAWING ARE INTERNAL FREE AREA SIZES. INTERNAL LINER SHALL BE 1/4" THICK DUCT SUPPLY SIDE. ON ALL OTHER TYPES OF HVAC UNITS WHERE SMOKE DETECT TYPE ARE TO BE USED ON THE DUCTWORK WITH FIRE RESISTIVE ADHESIVES AND CADDIM OR COPPER PLATED MECHANICAL FASTENERS.
- PORTIONS OF SUPPLY-AIR AND RETURN-AIR DUCTS CONVEYING HEAT OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSTALLED TO A MINIMUM INSTALLED LEVEL OF R-8: A. OUTDOORS; OR B. IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR C. IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR D. IN AN UNCONDITIONED CRAWLSPACE; OR E. IN OTHER UNCONDITIONED SPACES.

## U. LEADING EDGES OF DUCT INSULATION SHALL BE OVERLAPPED BY ADJOINING INSULATION AT LEAST 6 INCHES MINIMUM AND THEN REALED WITH FOL VAPOR BARRIER ADHESIVE AND DUCT MASTIC SO THAT NO FIBERGLASS INSULATION IS VISIBLE.

- ALL INSULATION ON EXISTING PIPING OR DUCTS THAT BECOMES WET, DAMAGED, DISTURBED OR GETS REMOVED SHALL BE REPLACED.
- INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS AND IN ACCORDANCE WITH RECOMMENDED INDUSTRY PRACTICES. INSULATION SHALL CONFORM WITH NFPA 90A.
- ALL INSULATION SHALL HAVE A FLAME SPREAD RATINGS OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO HIGHER THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM TEST: C411 OR AS REQUIRED BY LOCAL CODES.
- EXTERIOR SUPPLY AND RETURN DUCT INSULATION:
  - SERVICE RECTANGULAR, SUPPLY-AIR AND RETURN-AIR DUCTS:
    - MATERIAL: INSULATION BOARD, 6 PSF MINIMUM AND PLAN FINISH.
    - THICKNESS: 2 INCHES.
    - NUMBER OF LAYERS: TWO.
    - TEST: PERFORMED IN ACCORDANCE WITH ASTM TEST: C411.
    - VAPOR RETARDER REQUIRED: YES.
  - INORGANIC GLASS FIBERS PREFORMED AND BONDED BY THERMOSETTING RESIN. MUST COMPLY WITH ASTM C 612, TYPE 1A-18, KNAUF INSULATION OR APPROVED EQUIVALENT.

## V. VIBRATION ISOLATION DEVICES

- VIBRATION ISOLATION DEVICES SHALL BE PROVIDED IN ALL SUPPORTS BETWEEN VIBRATING EQUIPMENT (FANS, ROOFTOP UNITS, WATER SOURCE HEAT PUMPS, AIR HANDLERS, FAN POWERED VAV BOXES, ETC.) AND STRUCTURE.
- VIBRATING EQUIPMENT HUNG FROM STRUCTURE SHALL BE ISOLATED WITH RUBBER AND SPRING DEVICES. VIBRATING EQUIPMENT SUPPORTED FROM FLOOR OR DECK SHALL BE ISOLATED WITH HOLLOW SPRING MOUNT DEVICES.
- EXAMINE DEAD LOAD AND OPERATING LOAD CONDITIONS WHEN SELECTING DEVICES. ADJUST FOR PROPER ALIGNMENT AND LOADING. ALLOW "ROUNDING" THE ISOLATOR.
- CHECK HANGER ROD TYPE FOR ALLOWABLE LOADS AT THE ISOLATING DEVICE AND THE UPPER AND LOWER DUCT ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC.
- CONSULT MANUFACTURER FOR APPLICATION DATA.

## W. TESTING, ADJUSTING AND BALANCING

- TESTING, ADJUSTING AND BALANCING OF ALL WORK SHALL BE COMPLETED BY AN INDEPENDENT CONTRACTOR WHO IS CURRENTLY LICENSED BY THE ASSOCIATED AIR BALANCING COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), AND NONE IN BALANCE REPORTS WILL BE REVIEWED OR ACCEPTED. ALL BALANCING WORK MUST BE COMPLETE AND DONE IN ACCORDANCE WITH THE MOST RECENT STANDARDS OF THE SOCIETY. PAYMENT OF ALL COSTS FOR TESTING SHALL BE MADE BY THE HVAC CONTRACTOR.
- THE CONTRACTOR SHALL INSTALL NEW FILTERS IN ALL UNITS PRIOR TO THE AIR BALANCING. THE COMPLETE AIR BALANCE SHALL TAKE PLACE WITH OUTSIDE AIR DAMPERS IN MINIMUM POSITION.
- BALANCE AIR AND WATER QUANTITIES TO WITHIN PLUS OR MINUS 5 PERCENT OF THAT INDICATED ON THE DRAWINGS. ANY REQUIRED CHANGES IN SLEEVES, BELTS, PULLEYS OR THE ADDITION OF DAMPERS REQUIRED TO ACHIEVE SPECIFIED FLOW RATES SHALL BE PROVIDED BY THE HVAC CONTRACTOR WITH NO ADDITIONAL COST TO THE TENANT.
- THE BALANCE REPORT SHALL INCLUDE AS A MINIMUM THE FOLLOWING INFORMATION:
  - AABC OR NEBB CERTIFICATION NUMBER AND SIGNATURE OF BALANCING CONTRACTOR.
  - INSTRUMENTATION LIST WITH LAST CALIBRATION DATE.
  - MAKE AND MODEL NUMBERS OF ALL HVAC EQUIPMENT TESTED.
  - LOAD AND STATIC PRESSURE READINGS (DISCHARGE AND SUCTION) AS MEASURED BY PITOT TUBE DUCT TRAVERSE AT THE UNITS.
  - MOTOR AND FAN RPM, SHAFT SIZE AND BELT SIZES AND LENGTHS.
  - WATER BALANCE DATA INCLUDING GPM WITH INLET AND OUTLET TEMPERATURE AND PRESSURE READINGS.
  - LOAD AND STATIC PRESSURE READINGS (DISCHARGE AND SUCTION) AS MEASURED BY PITOT TUBE DUCT TRAVERSE AT THE UNITS.
  - FINAL BALANCED AIR VOLUMES AT ALL OUTLETS (INCLUDING RETURNS WHERE DUCTED).
  - INDEXED PLAN WITH DIFFUSER AND RETURN LOCATIONS.
- ALL CONTROL SEQUENCES SHALL BE TESTED AND OPERATING STATUS RECORDED IN THE REPORT.
- THREE COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED THROUGH THE GENERAL CONTRACTOR TO THE TENANT'S CONSTRUCTION MANAGER FOR REVIEW AND COMMENT.
- THE BALANCING CONTRACTOR SHALL PERFORM ALL APPLICABLE TESTING AND BALANCING FUNCTIONS REQUIRED FOR THE SYSTEM DESIGNED IN THESE DRAWINGS. THE BALANCING CONTRACTOR SHALL RECHECK ANY ITEMS THAT THE TENANT DEEMS NECESSARY AT NO ADDITIONAL COST TO THE TENANT.
- FINAL BALANCE REPORT SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL.

## X. FINAL HVAC INSPECTIONS

- ASIDE FROM NORMAL INTERIM INSPECTIONS OF WORK IN PLACE, THE TENANT SHALL HAVE THE RIGHT TO HAVE AN INDEPENDENT HVAC CONTRACTOR INSPECT THE FINISHED HVAC INSTALLATION UPON COMPLETION FOR COMPLIANCE WITH THE PLANS, SPECIFICATIONS AND CODES. THE INSTALLING CONTRACTOR WILL BE RESPONSIBLE TO BRING ALL ITEMS REPORTED BY THE INDEPENDENT HVAC CONTRACTOR UP TO PLANS AND SPECIFICATIONS REQUIREMENTS AT NO ADDITIONAL COST TO THE TENANT.

## Y. INDOOR AIR QUALITY

- NO ANALYSIS HAS BEEN MADE WITH REGARD TO SOURCES OR POTENTIAL SOURCES OF INDOOR OR OUTDOOR AIR CONTAMINANTS OR LEVELS OF CONTAMINATION.
- IT IS THE RESPONSIBILITY OF THE GENERAL AND MECHANICAL CONTRACTOR TO INFORM THE TENANT'S REPRESENTATIVE, LANDLORD AND TENANT'S ARCHITECT IF ANY SOURCE OR POTENTIAL SOURCE OF INDOOR AIR CONTAMINANTS IS IDENTIFIED.
- PRIOR TO ENCLOSING SPACES SUCH AS PLUMBING CHASERS, AIR SHAFTS AND RETURN AIR PLenums, CLEAN ALL AREAS THOROUGHLY. THE CONTRACTOR SHALL GUARANTEE THAT THE RETURN AIR PLenums USED FOR EXHAUSTING MANUALLY OPERATED CONTROL SYSTEM (EMCS) MAY BE INSTALLED TO TRAPS, SOIL STACKS, DOWNSPOUTS, VENTS, EXHAUST DISCHARGES AND OTHER SOURCES WHICH ARE ENCLOSED AFTER FILTER CHANGES DURING THE FIRST YEAR OF THE NORMAL PREVENTATIVE MAINTENANCE WORK SHALL BE PERFORMED AT THE TIME OF THE FILTER CHANGE. USE ONLY #40 PLEATED TYPE AIR FILTERS.

## Z. PERMITS

- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO THIS WORK.
- FURNISH TO THE TENANT'S CONSTRUCTION MANAGER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

## AA. DRAWINGS

- DRAWINGS (PLANS AND SPECIFICATIONS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. BECAUSE OF THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL DUCT AND PIPE OFFSETS, FITTINGS AND ACCESSORIES THAT MAY BE REQUIRED. THE MECHANICAL CONTRACTOR MUST OBTAIN APPROVED CONSTRUCTION DRAWINGS FROM THE GENERAL CONTRACTOR BEFORE BEGINNING ANY WORK.
- THE LAYOUT SHOWN ON THE DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. IF ANOTHER MAKE OF EQUIPMENT IS USED, THE CONTRACTOR SHALL ADVISE THE GENERAL CONTRACTOR AND APPROVED BY THE TENANT CONSTRUCTION MANAGER IMMEDIATELY. ALL COSTS FOR REPAIR OF DAMAGES TO ACTIVE LANDLORD OR OTHER TENANT SERVICES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR CAUSING THE DAMAGE.
- TI-EAS AND MODIFICATIONS TO EXISTING LANDLORD SERVICES MUST BE DONE WITH MINIMAL INTERRUPTION OF LANDLORD OPERATION AND DURING HOURS SPECIFIED BY THE LANDLORD. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING EXACT WORKING HOURS FOR THIS WORK WITH THE LANDLORD PRIOR TO SUBMITTING THEIR BID. THE CONTRACTOR SHALL INCLUDE IN THEIR BID ALL PREMIUM TIME REQUIRED TO PERFORM MODIFICATIONS DURING OTHER THAN NORMAL WORKING HOURS. ALL SUCH WORK MUST BE COORDINATED WITH THE LANDLORD.
- EQUIPMENT AND MATERIALS IN TRANSIT SHALL UTILIZE FRIGHT ELEVATOR OR STAIRS. SAID EQUIPMENT OR MATERIALS SHALL BE CRANED/AS REQUIRED TO MEET THE RESTRICTIONS IMPOSED BY THE BUILDING OR ITS COMPONENT CONTAINERS AND THEN REASSEMBLED IN THE NEW WORK AREA.
- ALL WORK SHALL BE DONE WITH A MINIMUM OF NOISE AND DISTURBANCE TO BUSINESS ROUTINE. ALL WORK SCHEDULES SHALL BE COORDINATED WITH AND APPROVED BY THE TENANT'S CONSTRUCTION MANAGER.
- SINCE THESE ARE SECURE FLOORS, ALL DELIVERIES, WORKERS, WORK OPERATORS, ETC. REQUIRED BY THE CONTRACTOR TO DO WORK PERFORMED IN ANY AREA OR SITE BUILDING SHALL BE IN STRICT COMPLIANCE WITH THE RULES AND REGULATIONS OF THE OWNER.
- CONTRACTOR SHALL PROTECT THEIR WORK AND EQUIPMENT FROM DAMAGE, VANDALS, ETC. ANY ITEM THAT IS DAMAGED, VANDALIZED OR STOLEN PRIOR TO ACCEPTANCE OF BUILDING BY OWNER AND ARCHITECT SHALL BE REPLACED BY RESPECTIVE CONTRACTOR AT NO CHARGE TO TENANT.
- IT IS SPECIALLY THE INTENTION OF THIS SPECIFICATION TO HOLD THE CONTRACTOR RESPONSIBLE FOR ALL DAMAGE DONE TO ANY EXISTING FACILITIES, EQUIPMENT, PAINTING, OR ARCHITECTURAL AND STRUCTURAL FEATURES OF THE BUILDING, BY EITHER THEIR OWN WORKMEN OR BY ANY OF THEIR SUBCONTRACTORS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE DONE BY THEIR OWN WORKMEN OR SUBCONTRACTORS AND THE OWNERS AT THEIR DISCRETION, MAY WITHHOLD PAYMENTS UNTIL TO THE REASONABLE COST OF THE REPAIRS.
- THIS CONTRACTOR OR THEIR WORKMEN SHALL NOT BE PERMITTED TO USE ANY PART OF THE EXISTING BUILDING AS A SHOP WITHOUT THE APPROVAL OF THE OWNER AND ARCHITECT.
- WHERE THE WORK MAKES TEMPORARY SHUTDOWN OF SERVICES UNAVOIDABLE, THEY SHALL BE MADE AT NIGHT OR AT SUCH TIMES AS WILL CAUSE THE LEAST INTERFERENCE WITH THE ESTABLISHED OPERATING ROUTINE.
- THIS CONTRACTOR SHALL ARRANGE THE WORK SO AS TO ASSURE THAT SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTION TO THE EXISTING WORK. THIS CONTRACTOR SHALL GIVE AMPLE WRITTEN NOTICE IN ADVANCE TO THE OWNER OF ANY REQUIRED SHUT DOWN.
- ALL MOTORS, FANS, CONTROLS, FIXTURES, HVAC UNIT, DUCTWORK AND OTHER EQUIPMENT FOR USE IN THIS CONTRACT SHALL BE PROTECTED BY TARPULIN OR BY BOWNS AS SOON AS DELIVERED TO THE SITE AND SHALL BE KEPT CLEAN AND DRY. THE MOTORS UNITS, FIXTURES, FANS, DUCTWORK AND MOVING PARTS SHALL BE KEPT COVERED SO AS TO ELIMINATE DIRT, DUST AND OTHER MATERIALS ENTERING AND CAUSING DAMAGE TO CONSTRUCTION WORK ON THE BUILDING. SHOULD IT BE FOUND THAT ANY PARTS ARE DAMAGED DUE TO CARELESSNESS ON THE PART OF THE CONTRACTOR IN NOT PROVIDING PROPER PROTECTION, SUCH PART OR PARTS SHALL BE REPLACED BY THE CONTRACTOR AT THEIR OWN EXPENSE. ALL OPENINGS IN DUCTS, PIPING, CONDUITS, ETC. SHALL BE PROPERLY PROTECTED WITH TEMPORARY CAPS OR PLUGS AT ALL TIMES.

## BB. DISCREPANCIES IN DOCUMENTS

- DRAWINGS (PLANS, SPECIFICATIONS AND DETAILS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS WHERE DRAWING, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONTACT OR ARE IN CONFLICT WITH THE CONTRACT DOCUMENTS. PRIOR TO SUBMITTAL OF BID, THE GENERAL CONTRACTOR IS RESPONSIBLE TO ADVISE THE TENANT'S CONSTRUCTION MANAGER IN WRITING OF VARIATIONS TO THE CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, TENANT'S CONSTRUCTION MANAGER'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

## CC. TRADE NAMES AND MANUFACTURERS

- WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM STANDARD FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUIVALENT OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO REVIEW IN WRITING BY THE



INDOOR HEAT PUMP UNIT SCHEDULE													BASIS OF DESIGN: TRANE (OR EQUIVALENT)									
UNIT TAG	LOCATION	ODU	AREA SERVED	TYPE	CAP. (TON)	COOLING MBH	HEATING MBH @47 Deg.F	HEATING MBH @17 Deg.F	TOTAL CFM (MAX.)	MAX. ESP. (IN. WG)	OUTSIDE AIR(CFM)	MAX. SOUND PRESS.(DBA)	ELECTRICAL DATA (AHU)			DIMENSIONS (HXWXD)		PIPE SIZE			WEIGHT (LBS.)	MODEL NO.
													PH/VOLT/Hz	MCA	MOC	UNIT	LIQ.	SUCTION	DRAIN (ID)			
(N) AHU-1	SEE PLAN	(N) ACCU-1	SEE PLAN	AIR HANDLER	5.0	55.7	52	34.8	2000	1	460	44	1/208/60	7	15	22X25X62	3/8"	7/8"	1"	230	STAM5006AC41 (OR EQUIVALENT)	
(N) AHU-2	SEE PLAN	(N) ACCU-2	SEE PLAN	AIR HANDLER	4.0	44.9	44	28.4	1600	1	370	44	1/208/60	5	15	22X25X57	3/8"	7/8"	1"	230	STAM5005AC31 (OR EQUIVALENT)	

NOTES:  
1) SUPPLY AIR CFM BASED ON HIGH STATIC.  
2) REFRIGERANT R-454B OR R-32 SHALL BE PROVIDED.  
3) PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.  
4) ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.  
5) PROVIDE MERV 13 FILTER ON ALL RETURNS TO UNIT.  
6) INDOOR UNIT ACCESS PANEL FIELD-PROVIDED.  
7) PROVIDE SPRING MOUNTED VIBRATION ISOLATORS FOR UNITS.  
8) PROVIDE DRIP PAN , LEAK DETECTOR & CONDENSATE PUMP.

OUTDOOR HEAT PUMP UNIT SCHEDULE													BASIS OF DESIGN: TRANE (OR EQUIVALENT)						
UNIT TAG	LOCATION	INDOOR UNITS SERVED	CAP. TR	COOLING MBH	HEATING MBH @47 Deg.F	HEATING MBH @17 Deg.F	TYPE	UNIT DIMENSIONS IN.(HXWXD)	WEIGHT (LBS)	PIPING DIMENSION		ELECTRICAL			SOUND LEVEL (DBA)	EER2	SEER2	HSPF2	MODULE NO.
										LIQUID-HI PRESSURE	GAS LOW-PRESSURE	(V/Hz/Ph)	MCA	MOP					
(N) ACCU-1	AS SHOWN	(N) AHU-1	5	55.7	52	34.8	HEAT PUMP	46X38X35	300	3/8"	7/8"	460/60/3	11	15	74	11.7	14.3	7.5	STWA4060A4 (OR EQUIVALENT)
(N) ACCU-2	AS SHOWN	(N) AHU-2	4	44.9	44	28.4	HEAT PUMP	46X38X35	300	3/8"	7/8"	460/60/3	9.4	15	74	11.7	15	7.7	STWA4048A4 (OR EQUIVALENT)

NOTES:  
1) UNIT SHALL HAVE TEN YEAR EXTENDED WARRANTY FOR COMPRESSORS/PARTS.  
2) PROVIDE COMPRESSOR CYCLE PROTECTOR.  
3) PROVIDE CONDENSING UNIT MOUNTING PAD.  
4) CONTRACTOR SHALL PROVIDE A LONG LINE SET FOR REFRIGERANT PIPING IN THE EVENT THAT TOTAL REFRIGERANT LENGTH EXCEED THE MANUFACTURER'S STANDARD RECOMMENDED LENGTH.  
5) PROVIDE COMPRESSOR THERMAL PROTECTION ,COMPRESSOR OVERCURRENT DETECTION AND FAN MOTOR OVERHEATING/VOLTAGE PROTECTION.  
6) REFRIGERANT R-454B OR R-32 SHALL BE PROVIDED.

FAN SCHEDULE													
TAG	MANUFACTURER	MODEL	LOCATION	AREA SERVED	FAN PERFORMANCE					WEIGHT LBS	CONTROL		
					CFM	ESP	FAN RPM	FLA	VOLTS			PHASE	HZ
(N) EF-1	GREENHECK	SP-A390-VG	SEE PLAN	SEE PLAN	70	0.5	1299	1.5	115	1	60	25	WALL SWITCH

NOTES & ACCESSORIES:  
1. PROVIDE FAN WITH GRILLE, VIBRATION ISOLATORS, DISCONNECT SWITCH, INTEGRAL BACKDRAFT DAMPER, & ALL ACCESSORIES REQUIRED BY VENDOR FOR PROPER OPERATION.  
2. INTERLOCK WITH LIGHT SWITCH/OCCUPANCY SENSOR.

BUILDING AIR BALANCE				
UNIT TAG	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
(N) AHU-1	2000	460	1540	-
(N) AHU-2	1600	370	1230	-
(N) EF-1	-	-	-	70 CFM
TOTAL:	3600 CFM	830 CFM	2770 CFM	70 CFM
BUILDING PRESSURE:			760 CFM	POSITIVE

VENTILATION CALCULATION AS PER CALIFORNIA ENERGY CODE 2022 - TABLE 120.1-A & 120.1-B						
ROOM NAME	AREA (SQ.FT.)	AREA OUTDOOR AIR RATE (CFM/SQ.FT)	REQUIRED OA (CFM)	PROVIDED OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT)	TOTAL EXHAUST (CFM)
SALES AREA	2406	0.25	602	605	0	0
FITTING AREA	172	0.15	26	30	0	0
FITTING ROOM-1	45	0.15	7	10	0	0
FITTING ROOM-2	25	0.15	4	5	0	0
FITTING ROOM-3	25	0.15	4	5	0	0
FITTING ROOM-4	25	0.15	4	5	0	0
FITTING ROOM-5	25	0.15	4	5	0	0
FITTING ROOM-6	59	0.15	9	10	0	0
STOCK AREA	426	0.15	64	65	0	0
STORAGE	260	0.15	39	40	0	0
CORRIDOR-1	162	0.15	24	25	0	0
CORRIDOR-1	166	0.15	25	25	0	0
REST ROOM	64	0	0	0	70	70
<b>TOTAL</b>	<b>3860</b>	<b>-</b>	<b>810</b>	<b>830</b>	<b>-</b>	<b>70</b>

AIR TERMINAL SCHEDULE								
TAG	MANUFACTURER	MODEL	TYPE	CFM RANGE	NECK SIZE	NOMINAL FACE SIZE	REMARKS	NOTES
(N) SD-2	TITUS	TMS	SUPPLY DIFFUSER	0-200	6" DIA	12"X12"	CEILING MOUNT	1-4

NOTES:  
1. BORDER TYPE TO BE COMPATIBLE WITH CEILING/WALL TYPE.  
2. COLOR AND FINISH TO BE REVIEWED AND APPROVED BY THE ARCHITECT.  
3. PROVIDE OPPOSED BLADE DAMPER AS ACCESSARY FOR ALL AIR TERMINAL FOR AIR BALANCING OR ELSE PROVIDE DAMPER IN DUCTS WHERE LOCATED IN INACCESSIBLE AREAS, PROVIDE CABLE OPERATED DAMPER LOCATED IN THE BRANCH, OPERABLE THROUGH THE FACE OF THE DIFFUSER (KEY OPERATED).  
4. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.

Property of NY Engineers

CONSULTANTS (ENGINEER):  
**NY ENGINEERS**  
NEARBY ENGINEERS  
382 NE 191ST STREET SUITE 49674,  
MIAMI, FL 33179  
PH: 914.257.3455  
WWW.NY-ENGINEERS.COM

PROFESSIONAL SEAL:

CONTRACTOR'S NOTES:

WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS. THE CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE CONTRACT TO THE TENANT'S REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. CHANGE ORDERS NEED TO BE APPROVED BY ARMANI EXCHANGE CONSTRUCTION MANAGER FOR ISSUES ARISING FROM THE FIELD CONDITIONS OR CONFLICTS BETWEEN THE PLANS AND THE EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.

DATE	ISSUE
02/25/25	CD SET- CLIENT/LL REVIEW
03/24/25	PERMIT SET

DATE	REVISION
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LOCATION:

PROJECT INFORMATION:  
DATE: 01/15/2025  
PROJECT NUMBER: 12402-25  
AREA: 4,440 SQ. FT.  
DRAWN BY: NYE REVIEWED BY: NYE

TITLE:

MECHANICAL SCHEDULES

SHEET NUMBER:

M3.0



# ELECTRICAL GENERAL NOTES

## A. GENERAL REQUIREMENTS

- GENERAL CONDITIONS: ALL CONDITIONS AND REQUIREMENTS UNDER THE "GENERAL CONDITIONS", THE "SUPPLEMENTAL CONDITIONS", THE "SPECIAL CONDITIONS" AND ANY PART OF THIS SPECIFICATION, AND BIDDERS WILL EXAMINE ALL DRAWINGS AND READ ALL PARTS OF THE SPECIFICATIONS TO AVOID OMISSIONS, DUPLICATIONS AND TO INSURE COMPLETE EXECUTION OF ALL WORK FOR ELECTRICAL.
- GENERAL: THE WORK UNDER THIS SECTION SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT AND INCIDENTAL COSTS NECESSARY TO FURNISH AND INSTALL ALL ELECTRICAL WORK, EQUIPMENT, LAMPS, ETC. INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN, OR BOTH.
  - THE ELECTRICAL SUBCONTRACTORS QUOTING ON THEIR SPECIFIC SCOPE OF WORK / SERVICES TO CONTACT THE LOCAL BUILDING DEPARTMENT / AGENCY TO DISCUSS CODE ISSUES / DISCREPANCIES REGARDING THEIR SERVICES AND THE QUOTE ASSOCIATED WITH THE SERVICES TO THE GENERAL CONTRACTOR FOR THIS PROJECT. THIS CONTRACTOR TO BE FAMILIAR WITH THE SITE WHERE SUCH SERVICES / WORK WILL BE PERFORMED, THIS SPECIFIC USE AND THE DISCREPANCIES ASSOCIATED WITH THE LIFE, SAFETY AND HEALTH ASSOCIATED WITH THIS WORK AND TO INDICATE ON THE QUOTE ANY ITEMS REQUIRED THAT ARE NOT NECESSARILY SHOWN ON THE DRAWINGS / SPECIFICATIONS.
- THE TENANT'S GENERAL CONTRACTOR AND/OR HIS ELECTRICAL SUBCONTRACTOR IS TO VERIFY ALL EQUIPMENT SPECIFICATIONS AND REQUIREMENTS WITH THE TENANT OR THE TENANT'S CONSTRUCTION REPRESENTATIVE PRIOR TO START OF CONSTRUCTION. THIS CONTRACTOR TO VERIFY AMPERAGE AND VOLTAGE SPECIFICATIONS AND REQUIREMENTS (SERVICE AND PANEL SPECIFICATION) WITH THE ELECTRICAL SUBCONTRACTOR IN COORDINATION WITH EQUIPMENT SPECIFICATIONS FOR EQUIPMENT SUPPLIED BY THE TENANT. THE CONTRACTORS OR OTHER SOURCES (AS SPECIFIED BY THE ARCHITECT) AS A DOUBLE CHECK TO ASCERTAIN PROPER INSTALLATION OF EQUIPMENT AT THE CORRECT VOLTAGE/AMPERAGE.
  - THE ELECTRICAL SUBCONTRACTOR IS REQUIRED TO VISIT THE SITE DURING BIDDING AND VERIFY LOCATION(S) OF WHERE THE ELECTRICAL EQUIPMENT/PIPING IS INDICATED TO BE PLACED, SIZE OF ANY EXISTING SERVICE AND WHAT IS INDICATED TO BE INSTALLED OR EXISTING TO BE REMOVED AND IF NEW SERVICE IS INDICATED TO VERIFY DIFFERENCES THAN THE DRAWINGS, SIZE OF FEEDER PIPES, REQUIRED DISTANCES AND POSSIBLE ADDITIONAL WORK REQUIRED AT THE ELECTRICAL DISTRIBUTIONS ROOM. ANY DISCREPANCIES BETWEEN DESIGNED AND ACTUAL TO BE TOLD TO THE GENERAL CONTRACTOR AND BE INDICATED ON THE BID FORM.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM THE BUILDING AND ELECTRICAL INSPECTORS FOR ALL CONCEALED WORK PRIOR TO CLOSING UP WALLS, FLOORS AND CEILING.
- TENANT'S GENERAL CONTRACTOR SHALL BRING IN ALL ADDITIONAL SERVICES, ADEQUATE FOR TENANT'S NEEDS AS REQUIRED, INCLUDING BUT NOT LIMITED TO ELECTRIC, SPRINKLER, SOIL (WASTE), DOMESTIC WATER LINES, OUTSIDE TOLL EXHAUST AIR, FIRE ALARM, TELEPHONE AND DATA.
- SCOPE: FURNISH LABOR, MATERIALS, TOOLS, EQUIPMENT, ETC. REQUIRED FOR A COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS AND WORK, IN ACCORDANCE WITH LOCAL CODES AND GOVERNING BODIES HAVING JURISDICTION, AS SHOWN ON DRAWINGS, AND AS SPECIFIED, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - NEW SERVICE -- TENANT'S CONTRACTOR IS TO REUSE EXISTING ELECTRICAL SERVICE OR CONDUIT ONLY. FURNISH AND INSTALL NEW ELECTRICAL SERVICE WIRE AND EXTEND BOTH CONDUIT AND WIRE TO POINT OF ALL NEW PANELS, TRANSFORMERS, WIREWAYS, TROUGHS, TIME CLOCKS, ETC. SINCE SPACE MAY OR MAY NOT BE MEASURED OR REVIEWED BY TENANT'S ARCHITECT, THE ACTUAL LOCATION OF SERVICE AND PANEL LOCATIONS MAY NOT BE KNOWN. THE ELECTRICAL SUBCONTRACTOR, IN REVIEW OF THE PREMISES, IS REQUIRED TO INSTALL PANELS IN LOCATION AS NOTED ON DRAWINGS AND MUST INCLUDE HIS BID ANY EXTENSION OF CONDUIT AND WIRE, NEW DISCONNECTS, RELOCATION OR INSTALLATION OF PANELS, TROUGHS, WIREWAYS, ETC. TO MAKE THE SYSTEM WHOLE AND TO UPGRADE AS NECESSARY TO MEET CODE REQUIREMENTS. INSTALL NEW SERVICE INCLUDING CONDUIT AND WIRE FROM DEMISED PREMISES TO LANDLORD'S ELECTRICAL ROOM IF THE EXISTING SERVICE NEEDS TO BE UPGRADED FROM WHAT TENANT WAS ORIGINALLY TOLD SERVICE WOULD BE, OR THE SERVICE NEEDS TO BE MOVED BECAUSE ITS EITHER SHOWN TO BE MOVED OR IS EXISTING NOW IN THE PATH OF FUTURE PARTITION OR OTHER SERVICES.
  - EXISTING SERVICE -- TENANT'S CONTRACTOR IS TO REUSE EXISTING ELECTRICAL SERVICE WIRE, CONDUIT AND ELECTRICAL EQUIPMENT; CUT AND EXTEND TO POINT OF NEW ELECTRICAL EQUIPMENT. ALL EXISTING ELECTRICAL EQUIPMENT WHICH IS REUSED TO BE BROUGHT UP TO "LIKE NEW" CONDITION AND THE LATEST N.E.C. STANDARD. SINCE SPACE MAY OR MAY NOT BE MEASURED OR REVIEWED BY TENANT'S ARCHITECT, THE ACTUAL LOCATION OF SERVICE AND PANEL LOCATIONS MAY NOT BE KNOWN. THE ELECTRICAL SUBCONTRACTOR, IN REVIEW OF THE PREMISES IS REQUIRED TO INSTALL PANELS IN LOCATION AS NOTED ON DRAWINGS AND MUST INCLUDE IN HIS BID ANY EXTENSION OF CONDUIT AND WIRE, NEW DISCONNECTS, RELOCATION OR INSTALLATION OF PANELS, TROUGHS, WIREWAYS, ETC. TO MAKE SYSTEM WHOLE AND TO UPGRADE AS NECESSARY TO MEET CODE REQUIREMENTS. INSTALL NEW SERVICE INCLUDING CONDUIT AND WIRE FROM DEMISED PREMISES TO LANDLORD'S ELECTRICAL ROOM IF THE EXISTING SERVICE NEEDS TO BE UPGRADED FROM WHAT TENANT WAS ORIGINALLY TOLD SERVICE WOULD BE, OR THE SERVICE NEEDS TO BE MOVED BECAUSE ITS EITHER SHOWN TO BE MOVED OR IS EXISTING NOW IN THE PATH OF FUTURE PARTITION OR OTHER SERVICES. SERVICE IS ADEQUATE BUT MUST BE RELOCATED, CUT AND EXTEND EXISTING WIRE AND CONDUIT TO POINT OF ALL NEW PANELS, DISCONNECTS, TROUGHS, TIME CLOCKS, ETC.
- C. POWER DISTRIBUTION SYSTEMS AND TRANSFORMER.
- LIGHTING SYSTEMS (ALSO SEE REFLECTED CEILING PLAN).
- ELECTRICAL ENERGIZING -- MISCELLANEOUS FAN AND MOTOR.
- MOTOR POWER WIRING SYSTEM.
- TELEPHONE EMPTY CONDUIT SYSTEM (INCLUDING TERMINAL BOXES AND OUTLETS).
- CONVENIENCE RECEPTACLE SYSTEM, DOOR ALARM/ ENTRY SYSTEM/ SECURITY.
- SOUND SYSTEM, INTERCOM SYSTEM -- FURNISHED AND INSTALLED BY THIS CONTRACTOR IF REQUIRED BY CLIENT; EMERGENCY LIGHT SYSTEM AND BATTERIES FURNISHED BY CLIENT AND INSTALLED BY THIS CONTRACTOR.
- GROUNDING IN ACCORDANCE WITH NATIONAL ELECTRIC CODE AND ALL MALL REQUIREMENTS.
- NIGHT LIGHT CIRCUITING THROUGHOUT PREMISES AS PER CODE WHETHER SHOWN OR NOT ON DRAWINGS.
- LOCK OUTS FOR EXIT / EMERGENCY LIGHTING, ALARM SYSTEMS, CASH REGISTERS, GRILLE AT ENTRY (IF APPLICABLE) AS REQUIRED. SEE PANEL SCHEDULE FOR CIRCUITS.
- SMOKE DETECTORS FURNISHED AND INSTALLED WITHIN STORE TO INCLUDE LOCATIONS AND INTERNAL / EXTERNAL WIRING IF REQUIRED BY LANDLORD OR FIRE MARSHAL.
- ELECTRICAL SUBCONTRACTOR, WHEN BIDDING THIS WORK, TO CHECK TO MAKE SURE THAT SERVICE WIRE, CONDUIT, DISCONNECTS, ETC. ARE ADEQUATE FOR TENANT'S NEEDS. IF ADDITIONAL SERVICE IS REQUIRED, INCLUDE NEW CONDUIT AND SERVICE FEED OR DISCONNECTS, METER BASE AND METER (IF APPLICABLE), ETC., TO BRING SUCH SERVICE UP TO TENANT'S NEEDS.
- FURNISH AND INSTALL ALL CONDUIT AND WIRING, DISCONNECTS, BREAKERS, BALANCING OF LOADS, ETC. FOR HOOKUP OF ALL H.V.A.C. EQUIPMENT, UNIT(S), OR INLINE HEATERS WHETHER SUCH HEATERS OR EQUIPMENT / UNITS ARE SHOWN OR NOT.
- FURNISH AND INSTALL A TWENTY FOUR (24) HOUR, SEVEN (7) DAY TIME CLOCK INCLUDING ALL INTEGRAL WIRING AND LOAD BALANCING (PANEL) FOR CONTROLLING THE CORNERPOST SIGN AND SHOW WINDOW LIGHTING, WHETHER SUCH WORK IS OR IS NOT SHOWN ON PLANS / OR SPECIFICATIONS.
- ALL ELECTRICAL ROUGH-IN TO BE NEW AND THE ORIGINAL SERVICES TO THE DEMISED PREMISES TO BE REUSED; CUT AND EXTEND TO POINT OF ALL NEW ELECTRICAL EQUIPMENT (IF ANY EQUIPMENT IS REUSED, UPGRADE SAME TO "LIKE NEW" CONDITION AND THE LATEST N.E.C. STANDARD) BY THE TENANT'S CONTRACTOR UNLESS NOTED OTHERWISE ON DRAWINGS. TENANT'S GENERAL CONTRACTOR TO FIELD VERIFY THAT ALL UTILITIES ARE AT OR ADJACENT TO TENANT'S SPACE AS NOTED AND AT THE SIZE SPECIFIED, IF THE UTILITIES ARE NOT IN LOCATIONS AS NOTED ON THE DRAWINGS OR OF A SIZE LARGER OR SMALLER THAN NOTED, THIS CONTRACTOR IS TO NOTIFY THE TENANT'S ARCHITECT IMMEDIATELY.
- THE TENANT'S ELECTRICAL SUBCONTRACTOR IS TO PROVIDE A NEW CIRCUIT DIRECTORY(IES) WITH PROPER PHASING AND BALANCING, WHICH IS TO CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND UNDERWRITER'S CODE.
- THE SIGN(S) JUNCTION BOX PERMIT IS TO BE INCLUDED IN THE WORK FOR THE ELECTRICAL SUBCONTRACTOR AND THE BOX IS TO BE SUPPLIED BY THIS CONTRACTOR AND PROPERLY LABELED.
- FURNISH AND INSTALL NEW (OR REFURBISH IF EXISTING) TOILET EXHAUST WITH ASSOCIATED DUCTWORK, ROOF PENETRATIONS, OR HOOK UP TO COMMON EXHAUST DUCT WITH BACKDRAFT DAMPER ETC., INCLUDING ASSOCIATED ELECTRICAL HOOKUP AND PANEL CONNECTIONS WHETHER SUCH WORK IS SHOWN OR NOT SHOWN ON PLANS AND SPECIFICATIONS.
- IF A SMOKE EVACUATION AND / OR DETECTION SYSTEM OCCURS FOR THIS SPACE, IT SHALL BE LEFT INTACT DURING CONSTRUCTION AND ANY NEW WORK, MODIFICATIONS AND/OR REWIRING TO BE COMPLETED DURING CONSTRUCTION PHASE TO POINT OF NEW PANELS, WHETHER SHOWN OR NOT SHOWN ON PLANS AND SPECIFICATIONS.
- ENGINEER, FURNISH AND INSTALL ANY AND ALL REQUIRED SMOKE EVACUATION, SMOKE DETECTION AND FIRE ALARM SYSTEMS, INCLUDING ANY AND ALL PARTS AND LABOR, TO MEET LOCAL, CODE, LANDLORD REQUIREMENTS AND FIRE MARSHAL SPECIFICATIONS WHETHER SHOWN OR NOT SHOWN ON PLANS AND SPECIFICATIONS.
- THE ELECTRICAL SUBCONTRACTOR TO COORDINATE WITH OTHER ENGINEERING DRAWINGS AND INCLUDE COSTS (LABOR AND MATERIALS) NECESSARY FOR OTHER ELECTRICAL EQUIPMENT / FIXTURES NOT SHOWN ON THESE ELECTRICAL DRAWINGS, BUT SHOWN ON OTHER ENGINEERING DRAWINGS.
- THE TENANT'S GENERAL CONTRACTOR AND/OR ELECTRICAL SUBCONTRACTOR IS TO INSTALL EMERGENCY AND EXIT LIGHTING AS REQUIRED BY LOCAL, CODE OR AGENCIES HAVING JURISDICTION OVER THE PROJECT. THE EXIT EMERGENCY LIGHTING SHOULD BE PROPERLY LABELED AND APPROVED TYPE LOCKOUTS INSTALLED.
- SUBSTITUTIONS: CATALOG AND MANUFACTURER'S NUMBERS IN THIS SECTION AND ON THE DRAWINGS ARE FOR THE PURPOSE OF ESTABLISHING STANDARDS OF QUALITY AND TYPE OF MATERIALS TO BE USED. PRODUCTS OR OTHER MANUFACTURERS MAY BE USED IF SIMILAR AND EQUAL IN QUALITY AND DESIGN IN THE OPINION OF THE OWNER OR OWNER'S ARCHITECT AND ARE SPECIFICALLY APPROVED BY THE OWNER OR OWNER'S ARCHITECT. IN WRITING, PRIOR TO CLOSE OF BIDDING, REQUESTS FOR APPROVAL OF SUBSTITUTIONS SHALL BE IN WRITING, AND SHALL INCLUDE REQUESTS FOR TESTS, PERFORMANCE DATA OR OTHER PROOF OF EQUALITY TO THE ITEM SPECIFIED.
- SHOP DRAWINGS & SUBMITTALS: PRIOR TO THE COMMENCEMENT OF WORK, SUBMIT ONE (1) SET OF THE FOLLOWING ITEMS TO THE OWNER'S ARCHITECT IN THE FORM OF SHOP DRAWINGS, DETAILS OR CATALOG CUTS FOR THE RECORD: LIGHTING AND POWER PANELS, WIRING DEVICES, SAFETY SWITCHES, TRANSFORMER, TIME CLOCKS AND ANY OTHER ITEMS AS REQUESTED BY THE OWNER OR THE OWNER'S ARCHITECT.
  - BY SUBMITTING SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND SIMILAR SUBMITTALS, THE CONTRACTOR REPRESENTS TO THE CLIENT AND ARCHITECT THAT THE CONTRACTOR HAS (1) REVIEWED AND APPROVED THEM, (2) DETERMINED AND VERIFIED MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO, OR WILL DO SO AND (3) CHECKED AND COORDINATED THE INFORMATION CONTAINED WITHIN SUCH SUBMITTAL WITH THE REQUIREMENTS OF THE WORK AND OF THE CONTRACT DOCUMENTS.
  - THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK FOR WHICH THE CONTRACT DOCUMENTS REQUIRE SUBMITTAL AND REVIEW OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNTIL THE RESPECTIVE SUBMITTAL HAS BEEN APPROVED BY THE ARCHITECT.

- THE WORK SHALL BE IN ACCORDANCE WITH APPROVED SUBMITTALS EXCEPT THAT THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS BY ANY APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS. UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE CLIENT IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMITTAL AND
    - THE ARCHITECT HAS GIVEN WRITING APPROVAL TO THE SPECIFIC DEVIATION AS A MINOR CHANGE IN THE WORK, OR A CHANGE IN ORDER OR CONSTRUCTION CHANGE DIRECTIVE HAS BEEN ISSUED AUTHORIZING THE DEVIATION.
    - THE CONTRACTOR SHALL DIRECT SPECIFIC ATTENTION IN WRITING OR ON RESUBMITTED SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS, TO REVISIONS OTHER THAN THOSE REQUESTED BY THE ARCHITECT ON PREVIOUS SUBMITTALS. IN THE ABSENCE OF SUCH WRITTEN NOTICE, THE ARCHITECT'S APPROVAL OF A RESUBMISSION SHALL NOT APPLY TO SUCH REVISIONS.
    - THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS BY THE ARCHITECT'S APPROVAL THEREOF.
  - WORKMANSHIP:
    - USE EXPERIENCED, WELL-QUALIFIED CRAFTSMEN, IN GOOD STANDING WITH THEIR RESPECTIVE LABELED UNIONS.
    - USE CAPABLE AND EXPERIENCED SUPERINTENDENTS, AUTHORIZED BY THE CONTRACTOR TO INSTRUCT WORK, MAKE JOB DECISIONS AND ACT FOR THE CONTRACTOR IN ALL MATTERS PERTAINING TO THE CONTRACT.
  - PERMITS, TESTS AND INSPECTIONS:
    - APPLY FOR, SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, LICENSES AND ROYALTIES TO ACCOMPLISH THE WORK.
    - APPLY FOR, SECURE AND PAY FOR ALL REQUIRED TESTS AND INSPECTIONS TO ACCOMPLISH THE WORK IN CONFORMANCE WITH ALL CODES AND JURISDICTIONS.
    - FURNISH SIGNED CERTIFIED AND ACCEPTABLE COPIES OF ALL ITEMS COVERED IN (A) AND (B) ABOVE TO THE OWNER FOR HIS RECORDS.
    - COMPLY WITH RULES AND REGULATIONS OF JURISDICTIONAL AUTHORITIES AND MALL OR LEASE SPECIFICATIONS AND REPORT ANY DEVIATIONS ON DRAWINGS TO OWNER.
  - CODES, RULES AND REGULATIONS: INCLUDE IN ELECTRICAL BID ANY ADDITIONAL MATERIALS AND LABOR THAT MAY BE REQUIRED FOR COMPLIANCE WITH ALL GOVERNING LAWS, RULES AND REGULATIONS, EVEN THOUGH THE WORK IS NOT MENTIONED IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS. NOTHING IN THE PLANS OR SPECIFICATIONS SHALL BE DEEMED AS AUTHORITY TO VIOLATE ANY GOVERNING CODE.
  - ACCURACY OF DATA:
    - THE DATA GIVEN HEREIN AND ON THE DRAWINGS ARE AS EXACT AS COULD BE SECURED, BUT THEIR ABSOLUTE ACCURACY IS NOT GUARANTEED. THE SPECIFICATIONS AND DRAWINGS ARE FOR THE ASSISTANCE AND GUIDANCE OF THE CONTRACTOR. EXACT LOCATIONS, DISTANCES, LEVELS, ETC., WILL BE GOVERNED BY THE BUILDING AND THE CONTRACTOR SHALL USE THE DATA CONTAINED HEREIN AND ON THE DRAWINGS WITH THIS UNDERSTANDING.
    - THE EXACT LOCATION OF EACH AND EVERY OUTLET OF EACH WIRING SYSTEM, NOT DIMENSIONED ON THE DRAWINGS, SHALL BE AS DIRECTED BY THE OWNER, THE OWNER'S ARCHITECT OR HIS SELECTED REPRESENTATIVE.
  - CLEANUP: REMOVE ALL SURPLUS MATERIAL, EQUIPMENT AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES IN A CONDITION ACCEPTABLE TO THE OWNER.
  - GUARANTEE: FURNISH A WRITTEN CERTIFIED GUARANTEE, IN ACCEPTABLE FORM TO THE OWNER, AGAINST ANY DEFECTS OR WORKING MATERIALS AND OPERATING EQUIPMENT, THIS GUARANTEE SHALL BE IN FULL FORCE AND EFFECTIVE FOR A PERIOD OF ONE (1) YEAR AFTER ACCEPTANCE OF THE INSTALLATION.
  - TEMPORARY ELECTRIC SERVICE: THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL WIRING FOR CONSTRUCTION USE AS FOLLOWS: THE SERVICE ENTRANCE AND FEEDER SHALL BE 50 AMPERE PHASE, 3 WIRE 120/208 VOLT FUSED MAIN DISCONNECT. THE FEEDER TO SERVE THE TEMPORARY DISTRIBUTION WIRING PROVIDING TEMPORARY LIGHTING IN ALL AREAS AS INDICATED ON DRAWINGS AND WHEREVER REQUIRED FOR THE OPERATION OF 120 VOLT SINGLE PHASE PORTABLE TOOLS AND EQUIPMENT NOT TO EXCEED 1 H.P.. THE WIRING SHOULD BE EXTENDED ALSO, SO THERE IS A 120 VOLT SINGLE PHASE OUTLET WITHIN 75 FEET OF ANY PORTION OF THE BUILDING. PROVIDE GROUND FAULT PROTECTION FOR ALL REQUIRED RECEPTACLES NOT TO BECOME A PERMANENT PART OF THE INSTALLATION.
  - STRUCTURAL CONDITIONS: NOTCHING AND BORING OF STRUCTURAL MEMBERS WILL NOT BE PERMITTED. IF CONDUIT, BOXES, ETC. NEED TO BE HUNG FROM STRUCTURAL STEEL, ONLY HANG FROM TOP FLANGE OF BEAMS AND TOP CHORDS AND ONLY AT PANEL POINTS OF JOISTS / TRUSSES.
  - COOPERATION WITH OTHER CONTRACTORS: THIS CONTRACTOR SHALL COOPERATE WITH ALL OTHER CONTRACTORS REGARDING LABOR MATERIALS AND ALL WORK SO THAT THE WORK AS A WHOLE SHALL BE EXECUTED AND COMPLETED WITHOUT CONFLICT OR DELAY. IN THE EVENT OF ANY MECHANICAL, OBSERVATION AS PLUMBING OR AIR CONDITIONING SUBJECTS IN WAY OF ELECTRICAL EQUIPMENT, IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO NOTIFY THE OWNER'S ARCHITECT BEFORE COMMENCING ANY WORK.
- II. BASIC MATERIALS AND METHODS
- BACKEAYS AND BOXES
    - WHERE SIZES OF RACEWAY OR BOXES ARE NOT INDICATED, THE CONTRACTOR SHALL SIZE THESE ITEMS AS REQUIRED FOR THE INSTALLATION.
    - LEXIBLE METAL CONDUIT AS ALLOWABLE BY CODE SHALL BE USED FOR FINAL CONNECTION OF LIGHTING FIXTURES AND WIRING DEVICES TO BE INSTALLED IN HUNG CEILING.
    - WORK INSTALLED IN METAL PARTITIONS SHALL BE RUN IN CONCEALED ELECTRIC METALLIC TUBING OR FLEXIBLE CONDUIT AS REQUIRED BY GOVERNING CODE AND LANDLORD.
    - BRANCH CIRCUIT WORK CHASED INTO EXISTING CONSTRUCTION FOR CONCEALMENT UNDER PATCHED FINISHES, MAY BE INSTALLED IN RIGID CONDUIT, OR EMT.
    - CONDUITS THAT RUN EXPOSED ON EXTERIOR OF BUILDING SHALL BE RIGID CONDUIT WITH WEATHER TIGHT, CORROSION RESISTANT FITTINGS.
    - FLEXIBLE STEEL CONDUITS SHALL BE USED IN MAKING UP SHORT, FLEXIBLE CONNECTIONS TO ROTATING OR VIBRATING MACHINERY. MINIMUM 12" LENGTH AND FOR CONNECTIONS BETWEEN JUNCTION BOXES IN HUNG OR FURRED CEILING FIXTURES.
    - ALL INTERIOR FEEDERS OR EXPOSED FEEDERS TO THE PUBLIC'S EYE, SHALL BE INSTALLED IN RIGID CONDUIT OR EMT.
    - ALL INTERIOR LOW VOLTAGE WIRING SHALL BE INSTALLED IN RIGID CONDUIT OR EMT WHERE REQUIRED BY CODE.
    - MINIMUM SIZE CONDUIT SHALL BE 3/4" TRADE SIZE UNLESS OTHERWISE INDICATE ON THE DRAWINGS.
    - ALL WORK RUN IN UNEXCAVATED AREAS, CRAWL SPACES, TUNNELS, OR UNDERGROUND SHALL BE INSTALLED IN RIGID CONDUIT.
    - ALL WORK RUN EXPOSED WITHIN THE BUILDING MAY BE INSTALLED IN RIGID STEEL CONDUIT OR ELECTRICAL METALLIC TUBING.
    - ALL WORK RUN CONCEALED WITHIN HUNG OR FURRED CEILING, METAL STUD PARTITIONS AND THE LIKE, MAY BE INSTALLED IN RIGID STEEL CONDUIT, ELECTRICAL METALLIC TUBING, EXCEPT THAT WIRING IN OR THROUGH SLABS SHALL BE IN RIGID CONDUIT.
    - GALVANIZED PRESSED STEEL OUTLET BOXES OF PROPER SIZE AND TYPE AS REQUIRED BY THE BUILDING CONDITIONS SHALL BE PROVIDED FOR ALL INTERIOR OUTLETS FOR LIGHTING, SWITCHES, RECEPTACLES, CLOCKS, SIGNALS, AND THE LIKE.
    - PROVIDE GALVANIZED FITTINGS FOR EXPOSED WORK, THREADED FOR CONDUIT CONNECTIONS AND PROVIDE WITH STABLE COVERS.
    - THE OUTLETS FOR LOCAL SWITCHES SHALL BE INSTALLED ADJACENT TO THE TRIM ON THE STRIKING SIDE OF THE DOOR, REGARDLESS OF THE LOCATIONS INDICATED ON THE DRAWINGS; THEREFORE, CHECK ALL DOOR SWINGS BEFORE INSTALLING CONDUIT AND OUTLETS.
  - GROUNDING:
    - ALL MAJOR PARTS NOT CARRYING CURRENT, INCLUDING THE FOLLOWING ITEMS BELOW, SHALL BE PROPERLY GROUNDED:
      - SECONDARY FEEDER CONDUIT AND EQUIPMENT ENCLOSURES.
      - PANEL BOARD ENCLOSURES, PULL AND JUNCTION BOXES, CABLE TROUGHS
      - ALL CONDUITS, METAL MOLDING AND OUTLET BOXES.
      - A FAN AND EQUIPMENT HOUSINGS EXPOSED ON THE STRUCTURE OR ON GRADE.
    - ALL CASH REGISTER OUTLETS TO BE ISOLATED AND SEGREGATED.
  - SAFETY SWITCHES: PROVIDE WHERE SHOWN OR AS REQUIRED, HEAVY-DUTY, METAL ENCLOSED, EXTERNALLY OPERATED FUSED, OR UNFUSED, SAFETY SWITCHES, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED. THE OPERATING MECHANISM SHALL BE SO DESIGNED THAT THE SWITCHES SHALL BE THE "ON" OR "OFF" POSITIONS, WHERE "WEATHERPROOF" SAFETY SWITCHES ARE INDICATED OR REQUIRED, THESE SHALL BE AS SPECIFIED ABOVE EXCEPT ENCLOSURES SHALL BE NEMA III, RAIN TIGHT.
  - MOTOR AND OTHER WIRING:
    - PROVIDE ALL REQUIRED CONDUIT, WIRING AND SAFETY SWITCHES FOR ALL MOTORS, AND ANY OTHER ELECTRICAL EQUIPMENT INSTALLED OR CONNECTED UNDER THIS DIVISION.
    - ALL MOTORS WILL BE FURNISHED AND SET UNDER OTHER DIVISION, THE WORK OF THIS DIVISION SHALL INCLUDE PROVIDING ALL CONNECTIONS SO AS TO BE COMPLETE.
    - ALL STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, LEVEL SENSORS, ALARM DEVICES, REMOTE CONTROL PUSH BUTTONS, ETC., WILL BE FURNISHED BY THE VARIOUS CONTRACTORS, UNLESS OTHERWISE NOTED HEREIN. BUT THIS CONTRACTOR SHALL SET THESE DEVICES AND PROVIDE ALL CONNECTIONS.
    - FOR EACH THERMOSTAT (BY H.V.A.C.), PROVIDE 4" x 4" OUTLET BOX WITH 3/4" EMPTY CONDUIT STUBBED UP INTO CEILING AND BUSHED, PROVIDE STEEL DRAG WIRE FOR EACH LOCATION.
  - WIRING DEVICES:
    - COMPUTER RECEPTACLES AT CASH WRAP AREA SHALL BE HUBBELL #JGS262, COMPUTER GRADE WITH "ISOLATED" GROUND LUGS.
    - ALL WIRING DEVICES INSTALLED IN THIS BUILDING SHALL BE "SPECIFIED GRADE," MANUFACTURED BY ARROW, HART AND HEGEMAN, HUBBELL, GENERAL ELECTRIC, OR EQUIVALENT.
    - LOCAL SWITCHES SHALL BE TOGGLE TYPE, A.C. RATED 20 AMPERES, 125 VOLTS, QUIET-TYPE WITH SILENT OPERATING MECHANISM, TOTAL CLOSED IN A MOLDED COMPOSITION BASE. SWITCHES SHALL BE SINGLE POLE, THREE OR FOUR-WAY AS INDICATED. WHERE LOCK TYPE LOCAL SWITCHES ARE INDICATED, THESE SHALL BE SIMILAR TO ABOVE SPECIFICATION WITH KEY OPERATOR, PROVIDE TO OWNER TWO (2) KEYS FOR EACH SWITCH INSTALLED.
    - ALL RECEPTACLES INSTALLED IN THIS BUILDING SHALL BE OF THE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE

- CONNECTION TO CONDUIT SYSTEM.
6. WIRES AND CABLES:
- ALL WIRE FOR LIGHT AND POWER INSTALLATIONS SHALL BE HIGH CONDUCTIVITY COPPER, 600 VOLT INSULATED IN ACCORDANCE WITH THE NATIONAL BOARD OF FIRE UNDERWRITERS STANDARDS FOR TYPE "THW" WIRES, EXCEPT AS NOTED ON THE DRAWINGS OR OTHERWISE SPECIFIED HEREIN.
  - NO WIRE SHALL BE SMALLER THAN NO. 12 A.W.G.. ALL WIRES NO. 8 AND LARGER SHALL BE STRANDED.
  - WIRES SHALL BE COLOR CODED.
  - ALL WIRES SHALL BE POLARIZED.
  - CIRCUIT WORK BETWEEN OUTLET BOXES AND EACH RECESSED LIGHTING FIXTURE SHALL BE TYPE "AF" WIRE.
  - HOME RUNS AND BRANCH WIRING FOR 120 VOLT CIRCUITS SHALL BE AS FOLLOWS:
 

LENGTH	HOME RUN WIRE SIZE	CIRCUIT WIRE SIZE
1' TO 5'	12	12
50' TO 100'	10	12
100' TO 150'	8	12
7. LIGHTING AND POWER PANELS:

- PANELS SHALL BE CIRCUIT BREAKER TYPE INSTALLED IN CODE GAUGE GALVANIZED SHEET STEEL CABINETS, FLUSH OR SURFACE MOUNTED AS INDICATED ON THE DRAWINGS. THE PANEL SECTIONS SHALL BE MOUNTED AWAY FROM THE BACK OF THE CABINETS IN SUCH A MANNER THAT THERE WILL BE NO SPACE BETWEEN THE CABINET TRIMS AND FRAMES. THE GUTTER SPACES ON ALL SIDES, TOPS AND BOTTOMS SHALL BE OF SUFFICIENT SIZE TO PREVENT OVERGROWING OF WIRES AND CABLES AND TO PROVIDE SUFFICIENT VENTILATION TO PREVENT OVERHEATING OF THE CIRCUIT BREAKERS. EACH CABINET SHALL BE COMPLETE WITH HINGED DOORS, CYLINDER LOCK, DINN WIRING FRAME AND "TYPED" PANELS. ALL PANELS SHALL BE KEVED ALIKE. INSTALL AN ANGLE PIECE ON INSIDE OF EACH TRIM FOR EASE OF INSTALLATION.
  - HE BRANCH CIRCUIT BREAKERS, IN GENERAL, SHALL BE MOLDED CASE, BOLT-ON TYPE, RATED 10,000 AIC ON 120/208V, 100 AMPERE FRAME, THERMAL MAGNETIC TRIP SINGLE, TWO OR THREE POLE AS SHOWN ON THE DRAWINGS. ALL MULTIPLE POLE BREAKERS FOR PANELS WHERE INDICATED ON THE DRAWING SCHEDULES. MAIN BREAKER CHARACTERISTICS SHALL BE AS INDICATED ON THE DRAWINGS. MAIN BUSS WORK OF ALL PANELS SHALL, AS A MINIMUM, BE DESIGNED TO CARRY THE FULL RATING OF THE FEEDER SWITCH SUPPLYING THE PANEL, AT A CIRCUIT DENSITY OF 800 AMPERES PER SQUARE INCH OF CROSS SECTION. BUSS WORK SHALL BE HIGH CONDUCTIVITY COPPER (277 / 480V CIRCUIT BREAKERS SHALL BE RATED AT 14,000 A.I.C.).
  - PANEL SECTIONS SHALL BE SUCH THAT NO LIVE PARTS ARE EXPOSED AFTER INSTALLATION. THEY SHALL BE SO ARRANGED THAT EACH BREAKER IS READILY REMOVABLE FROM THE PANEL WITHOUT DISTURBING ADJACENT BREAKERS. ELECTRICAL CONTRACTOR TO PROVIDE TYPED BREAKER LIST.
  - PHASE LEGS SHALL BE ALTERNATELY BUSSED TO EACH CIRCUIT BREAKER IN A MANNER TO AFFECT BALANCING THE BRANCH CIRCUIT CONNECTIONS AS NEARLY AS POSSIBLE OVER EACH PHASE.
8. DRY TYPE TRANSFORMERS (IF NEW IS REQUIRED):
- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A TYPE DRY AIR COOLED INDOOR POWER TRANSFORMER, AS RATED ON THE DRAWINGS AND HEREINAFTER SPECIFIED.
  - THE TRANSFORMER SHALL BE PROVIDED WITH SUITABLE VIBRATION DAMPERS, SAME TO BE PLACED BETWEEN THE CORE AND THE COILS OF THE ENCLOSURE.
  - THE TRANSFORMER SHALL HAVE CLASS "F" INSULATION, AND THE WIRING TEMPERATURE RISE SHALL NOT EXCEED 150 DEGREES CELSIUS UNDER FULL LOAD IN AN AMBIENT TEMPERATURE OF 40 DEGREES CELSIUS.
  - THE TRANSFORMER ENCLOSURE SHALL BE PRIMED INSIDE AND OUT WITH A ZINC-COATED CHROMATE IRON OXIDE RUST INHIBITING PRIMER AND FINISHED ASAGI GRAY ENAMEL.
  - THE MAXIMUM ACCEPTABLE NOISE LEVEL SHALL NOT EXCEED THE FOLLOWING: 0 TO 150KVA - 42 db.
9. LIGHTING FIXTURES:
- ALL LIGHTING FIXTURES AND LAMPS SHALL BE SUPPLIED BY THE TENANT AND / OR TENANT'S LIGHT FIXTURE AND LAMP SUPPLIER UNLESS OTHERWISE NOTED, AND SHALL BE DELIVERED HANDLED, ASSEMBLED AND INSTALLED AT THE SITE BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE UNLOADING, STORAGE, AND PROTECTION OF ALL ITEMS FOUND TO BE DEFECTIVE AND SHALL BE REPLACED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
  - THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL THE NECESSARY LABOR AND MATERIALS FOR THE COMPLETE INSTALLATION OF THE LIGHTING FIXTURES AS INDICATED ON THE DRAWINGS.
  - ALL FLOURESCENT AND INCANDESCENT LAMPS SHALL BE AS NOTED ON PLANS AND SPECIFICATIONS AND SHALL BE PROVIDED BY THE TENANT AND/OR TENANT'S LIGHT FIXTURE AND AMP SUPPLIER AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
  - SEE ELECTRICAL DRAWING FOR LIGHTING FIXTURE DESCRIPTIONS.

### III. SPECIFIC ELECTRICAL SPECIFICATIONS

- SEE ELECTRICAL DRAWINGS - LANDLORD'S CRITERIA: THE ELECTRICAL CONTRACTOR IS TO BECOME FAMILIAR WITH LANDLORD'S CRITERIA FOR THIS LOCATION AND INCLUDE ANY WORK REQUIRED IF THIS CRITERIA, WHICH IS NOT SPECIFICALLY NOTED IN THESE DRAWINGS AND SPECIFICATIONS.
- TELEPHONE
  - PROVIDE 3/4" EMT IN WALLS WITH DRAG STRING AT EACH LOCATION.
- MISCELLANEOUS
  - ALUMINUM WIRE IS STRICTLY PROHIBITED FOR THIS PROJECT.
- DURING DEMOLITION, ANY ELECTRICAL EQUIPMENT, FIXTURE SYSTEMS, CONDUIT AND WIRE ARE TO BE REMOVED AS NOTED AND NOT REUSED. THIS UNUSED EQUIPMENT, FIXTURE SYSTEMS, CONDUIT, AND WIRE MAY NOT BE REWORKED AND LEFT WITHIN THE SPACE. THEY MUST BE REMOVED TO AN APPROVED DISPOSAL SITE.

ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LANDLORD'S "TENANT DESIGN CRITERIA" "TENANT CONSTRUCTION CRITERIA"

HOME RUNS AND BRANCH WIRING FOR 120 VOLT 16 AMP CIRCUITS SHALL BE AS FOLLOWS TO ACCOUNT FOR VOLTAGE DROP:

LENGTH	HOME RUN WIRE SIZE	CIRCUIT WIRE SIZE
1' TO 5'	12	12
56' TO 104'	10	12
105' TO 156'	8	12
157' TO 263'	6	12
264' TO 415'	4	12

ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LANDLORD'S "TENANT DESIGN CRITERIA" "TENANT CONSTRUCTION CRITERIA"

ALL CONTRACTOR SHALL OBTAIN A COPY FROM THE LANDLORD'S TENANT COORDINATOR OR GGP Mall Operations Manager AND BECOME FAMILIAR WITH THE REQUIREMENTS CONTAINED WITHIN PRIOR TO BIDDING THE JOB, WHERE LANDLORD'S REQUIREMENTS CONFLICT WITH THE NATIONAL ELECTRICAL CODE, THE STRICTEST INTERPRETATION SHALL APPLY.

Verify any demolition work, and any new work, required by the landlord that is not shown on plans with LANDLORD Mall Operations Manager prior to bid.

- Reuse of existing service, metering, panelboards, transformers, conduit, wire, etc. is subject to building dept. and land approval. Verify if allowed to reuse, and if any work is required by the building dept. or the landlord, with the building dept., the tenant's architect and LANDLORD Mall Operations Manager prior to bid.
- Must cover return air opening prior to start of demolition work and/or new construction. Verify landlord requirements with LANDLORD Mall Operations Manager.
- Verify landlord's requirements for removing abandoned floor penetrations and patching floor slab with LANDLORD Mall Operations Manager prior to bid. Floor slab patching must be approved by the landlord prior to installing any new flooring.
- Verify fire alarm / life safety system requirements with the tenant's architect and LANDLORD Mall Operations Manager prior to bid. Must use landlord's fire alarm contractor. Verify with LANDLORD Mall Operations Manager. Reuse of any existing devices, wiring, etc. is subject to approval by the dept. & LANDLORD Mall Operations Manager. Verify if any service/maintenance work is required prior to bid. All conduit, J-boxes, cable, etc. must be painted red and labeled "fire alarm".
- Verify if required to mute tenant's music/stereo system when fire alarm system is activated with landlord's fire alarm system contractor and the tenant's architect prior to bid.
- All lighting fixture, equipment, devices, etc. shall be U.L. Listed.
- All light fixtures, equipment, wiring methods, etc. within ceiling return air plenum shall comply with NEC Section 300-22, and any additional building dept. or landlord requirements. Verify if any additional building dept. or landlord requirement with the tenant's architect and LANDLORD Mall Operations Manager prior to bid.
- Provide lock-on device for exit light, emergency light and fire alarm circuits as required.
- Balance panelboard loads to within 10 percent of lowest phase and submit report to LANDLORD Mall Operations Manager.
- Verify landlord's floor slab saw cutting requirements with LANDLORD Mall Operations Manager prior to bid. May be required to perform radar/sonar/K-ray verification survey of floor slab.
- Verify landlord approved methods for attaching to building structure when hanging/supporting HVAC equipment, ductwork, piping, water heaters, transformers, fixtures, conduit, etc. with the tenant's architect and LANDLORD Mall Operations Manager prior to bid. Attaching to roof, deck, or upper level floor slab, is not allowed. May be required to submit detail plan to landlord's structural engineer for approval at the tenant's expense.
- Provide access to any landlord and/or tenant equipment, valves, dampers, controls, cleanouts, J-boxes, etc. located above GYP board ceiling and any other inaccessible areas as required. Verify/coordinate required access panel, locations with the tenant's architect and LANDLORD Mall Operations Manager prior to bid/start of work.
- See notes on plans and verify all materials and work required by the landlord prior to bid.
- The landlord's Operations Manager shall have the authority to make on-site decisions and field changes in accordance with the landlord's tenant design criteria, and any specific mall operation needs/requirements not noted on plans.

CONSULTANTS (ENGINEER):  
**NY ENGINEERS**  
 NEARBY ENGINEERS  
 382 NE 191ST STREET SUITE 49674,  
 MIAMI, FL 33179  
 PH-914.257.3455  
 WWW.NY-ENGINEERS.COM

PROFESSIONAL SEAL:

CONTRACTOR'S NOTES:  
 WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS. THE CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE CONTRACT TO THE TENANT'S REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. CHANGE ORDERS NEED TO BE APPROVED BY ARMANI EXCHANGE CONSTRUCTION MANAGER FOR ISSUES ARISING FROM THE FIELD CONDITIONS OR CONFLICTS BETWEEN THE PLANS AND THE EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.

DATE	ISSUE
02/25/25	CD SET - CLIENT/LL REVIEW
03/24/25	PERMIT SET

DATE	REVISION
------	----------



LOCATION:

PROJECT INFORMATION:  
 DATE: 01/15/2025  
 PROJECT NUMBER: 12402-25  
 AREA: 4,440 SQ. FT.  
 DRAWN BY: NYE REVIEWED BY: NYE

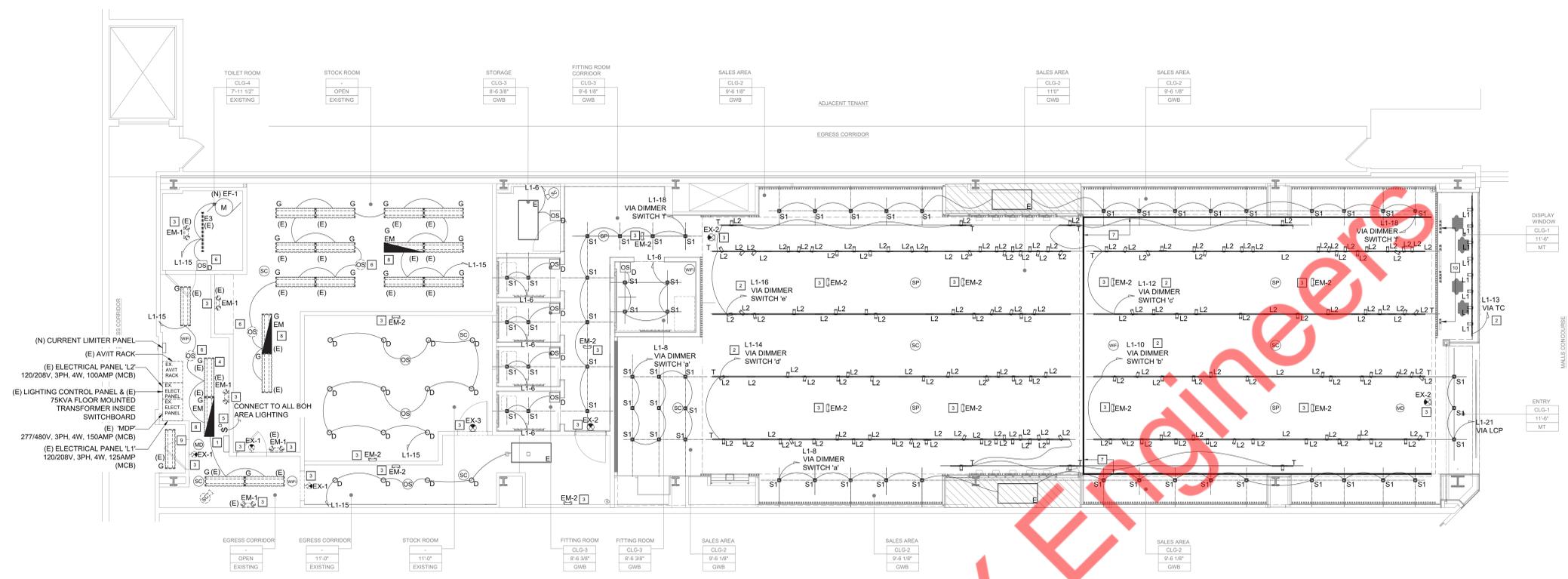
TITLE:

**ELECTRICAL GENERAL NOTES**

SHEET NUMBER:

**E1.0**

LEGEND:  
 - - - - - NEW (N)  
 - - - - - EXISTING (E)



- Exit and emergency light fixture types and locations are subject to building dept. and landlord approval.
- All lighting fixtures, equipment, devices, etc. shall be U.L. Listed.
- All light fixtures, equipment, wiring methods, etc. within a ceiling return air plenum shall comply with NEC Section 300-22, and any additional building dept. or landlord requirements.
- Verify if any additional building dept. or landlord requirements with the tenant's architect and LANDLORD Mall Operations Manager prior to bid.
- Verify if occupancy sensors are required in any non-sales areas.

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PROFESSIONAL SEAL:

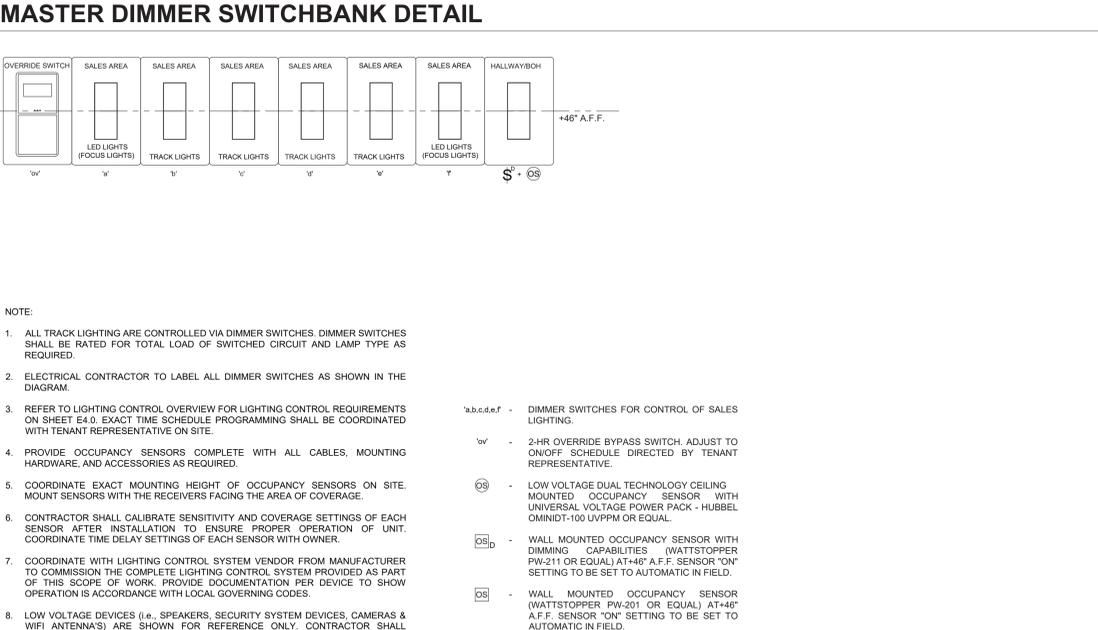
CONTRACTOR'S NOTES:  
 WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS. THE CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE CONTRACT TO THE TENANT'S REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. CHANGE ORDERS NEED TO BE APPROVED BY ARMANI EXCHANGE CONSTRUCTION MANAGER FOR ISSUES ARISING FROM THE FIELD CONDITIONS OR CONFLICTS BETWEEN THE PLANS AND THE EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.

DATE	ISSUE
02/25/25	CD SET - CLIENT/LL REVIEW
03/24/25	PERMIT SET

1 ELECTRICAL LIGHTING PLAN

LIGHTING FIXTURE SCHEDULE									
TYPE	SYMBOL	DESCRIPTION	MFG/FRTR.	LAMP	WATTS	VOLTS	LOCATION	FINISH	NOTE
S1		LOGO PRO MINI- 9.5W- 4000K	SISTEMALUX	LED PROJECTOR	9.5	-	FITTING ROOM & FITTING ROOM MIRROR, SALES AREA	BLACK	
L		EN-KLO SERIES: PREMIUM VERSION 2-PIN TRACK ADAPTOR	OMEGA	LED TRACK LIGHT	15	-	SALES AREA	BLACK	REPOSITIONED LIGHTING ITEMS (MOVED FROM DISUSED POSITION)
L1		DORA SMALL - 15W- 4000K	LPA LIGHTING & ENERGY SOLUTIONS	LED TRACK LIGHT	15	-	DISPLAY WINDOW	BLACK	
L2		DORA SMALL - 15W- 4000K	LPA LIGHTING & ENERGY SOLUTIONS	LED TRACK LIGHT	15	-	SALES AREA	BLACK	
T		ELECTRIFIED TRACK	-	-	-	-	SALES AREA	BLACK	
D		6" SWITCHABLE WHITE ADJUSTABLE LED DOWNLIGHT. CATALOG WFB ADJ SWW590CR1 MW M6 UNIVERSAL NEW CONSTRUCTION WAFER PAN WFB648 UNIVERSAL WAFER PAN	JUNO	-	12	120	STOCKROOM	-	
G (E)		EXISTING RECESSED: BRIGHT 1X4 LED TROFFER DLC MODEL: RTU51 4HU400000	ATG ELECTRONICS	LED	42	120/ 277	STOCKROOM	-	
EM-1		EXISTING EMERGENCY LIGHT- R1 INCANDESCENT EMERGENCY UNIT	BEST LIGHTING PRODUCTS	LED	5.4	120/ 277	120/ 277	BLACK/WHITE	
EM-2		LED EMERGENCY LIGHT W/BATTERY BACK-UP	MAXILUME	LED	-	120/ 277	-	BLACK	
EX-1		EXISTING EXIST SIGN.	-	-	-	-	STOCKROOM	-	
EX-2		THERMOPLASTIC EXIT SIGN, WHITE HOUSING, RED LETTERS, SELF-TEST/ SELF DIAGNOSTICS	EXITRONIX LED CAT No: VLED-U-WH-EL90	-	-	-	-	-	
E3		EXISTING RESTROOM LIGHT FIXTURE	-	-	-	-	RESTROOM	-	
E		BACKLITE-LINE LED PANEL 2'X4' LED-BPL-2X4-3MS0W-ACCT	ENVISION LED	LED	30	120	BOH & STORAGE	-	EMERGENCY LIGHT

- KEY NOTES**
- NEW MASTER DIMMER SWITCH BANK LOCATION (CLOSE TO BACK ENTRANCE). SEE DETAIL IN THIS SHEET FOR ADDITIONAL INFORMATION. VERIFY/CONFIRM LOCATION WITH OWNER PRIOR TO INSTALLATION AND ROUGH-IN.
  - ROUTE TRACK LIGHTING CIRCUIT THROUGH A CURRENT LIMITING PANEL. REFER TO CURRENT LIMITER PANEL SCHEDULE FOR MORE INFORMATION.
  - ALL NEW/EXISTING/RELOCATED EXIT SIGNS & EMERGENCY LIGHTS TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCHING.
  - THIS LIGHT FIXTURE SHALL NOT BE CONTROLLED BY AUTOMATIC MEANS ONLY AS PER NEC 110.26(D).
  - DIMMER SWITCH FOR ALL BACK OF HOUSE LIGHTING. SWITCH SHALL BE RATED FOR TOTAL LOAD OF SWITCHED CIRCUIT AND LAMP TYPE AS REQUIRED. DIMMER SHALL BE PROVIDED WITH AN ON/OFF SWITCH. CONTRACTOR TO COORDINATE IF ANY ADDITIONAL SWITCHES REQUIRED FOR THE CONTROL OF LIGHT FIXTURES. BASE BID ACCORDINGLY.
  - EXISTING CEILING MOUNTED OCCUPANCY SENSOR. ELECTRICAL CONTRACTOR TO FIELD VERIFY THE OPERABLE CONDITION OF EXISTING CEILING MOUNTED OCCUPANCY SENSOR. REUSE IF POSSIBLE. OTHERWISE PROVIDE NEW CEILING MOUNTED OCCUPANCY SENSOR. BASE BID ACCORDINGLY.
  - REFER SHEET E3.0- POWER PLAN FOR EXACT POWER PROVISION/ ELECTRICAL REQUIREMENT OF UPPER FASCIA LED WALL.
  - LIGHT FIXTURES DESIGNATED WITH EM TO REMAIN ENERGIZED AT EMERGENCY (POWER OUT) CONDITION. ELECTRICAL CONTRACTOR TO PROVIDE UL924 OVERRIDE DEVICE FOR EVERY EMERGENCY CIRCUIT IN ENCLOSED SPACE AS INDICATED ON PLANS.
  - EXISTING LIGHT FIXTURE AND CONTROLS TO REMAIN. MAINTAIN CIRCUIT CONTINUITY TO FIXTURE AND ASSOCIATED CONTROLS.
  - REFER SHEET E3.0- POWER PLAN FOR EXACT POWER PROVISION/ ELECTRICAL REQUIREMENT FOR WINDOW FACADE BACKLIT SYSTEM (AX SIGN).



- NOTE:
- ALL TRACK LIGHTING ARE CONTROLLED VIA DIMMER SWITCHES. DIMMER SWITCHES SHALL BE RATED FOR TOTAL LOAD OF SWITCHED CIRCUIT AND LAMP TYPE AS REQUIRED.
  - ELECTRICAL CONTRACTOR TO LABEL ALL DIMMER SWITCHES AS SHOWN IN THE DIAGRAM.
  - REFER TO LIGHTING CONTROL OVERVIEW FOR LIGHTING CONTROL REQUIREMENTS ON SHEET E4.0. EXACT TIME SCHEDULE PROGRAMMING SHALL BE COORDINATED WITH TENANT REPRESENTATIVE ON SITE.
  - PROVIDE OCCUPANCY SENSORS COMPLETE WITH ALL CABLES, MOUNTING HARDWARE, AND ACCESSORIES AS REQUIRED.
  - COORDINATE EXACT MOUNTING HEIGHT OF OCCUPANCY SENSORS ON SITE. MOUNT SENSORS WITH THE RECEIVERS FACING THE AREA OF COVERAGE.
  - CONTRACTOR SHALL CALIBRATE SENSITIVITY AND COVERAGE SETTINGS OF EACH SENSOR AFTER INSTALLATION TO ENSURE PROPER OPERATION OF UNIT. COORDINATE TIME DELAY SETTINGS OF EACH SENSOR WITH OWNER.
  - COORDINATE WITH LIGHTING CONTROL SYSTEM VENDOR FROM MANUFACTURER TO COMMISSION THE COMPLETE LIGHTING CONTROL SYSTEM PROVIDED AS PART OF THIS SCOPE OF WORK. PROVIDE DOCUMENTATION PER DEVICE TO SHOW OPERATION IS ACCORDANCE WITH LOCAL GOVERNING CODES.
  - LOW VOLTAGE DEVICES (i.e. SPEAKERS, SECURITY SYSTEM DEVICES, CAMERAS & WIFI ANTENNAS) ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE FINAL LOCATION, QUANTITY WITH ARCHITECT/OWNER AND EXACT ELECTRICAL REQUIREMENTS WITH SYSTEM VENDOR PRIOR TO ROUGH PER THE SITE CONDITIONS. PROVIDE POWER & DATA OUTLETS AS REQUIRED. ALSO VERIFY OPERABLE CONDITION OF EXISTING LOW VOLTAGE DEVICES (IF ANY). PROVIDE NEW IF FOUND INOPERABLE.
- w, v, t, s, d, e, f - DIMMER SWITCHES FOR CONTROL OF SALES LIGHTING.  
 h - 2-HR OVERRIDE BYPASS SWITCH. ADJUST TO ON/OFF SCHEDULE DIRECTED BY TENANT REPRESENTATIVE.  
 OS - LOW VOLTAGE DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR WITH UNIVERSAL VOLTAGE POWER PACK - HUBBEL OMINDOT-100 UVPPM OR EQUAL.  
 OS - WALL MOUNTED OCCUPANCY SENSOR WITH DIMMING CAPABILITIES (WATTSTOPPER PW-211 OR EQUAL) AT 48" A.F.F. SENSOR "ON" SETTING TO BE SET TO AUTOMATIC IN FIELD.  
 OS - WALL MOUNTED OCCUPANCY SENSOR (WATTSTOPPER PW-201 OR EQUAL) AT 48" A.F.F. SENSOR "ON" SETTING TO BE SET TO AUTOMATIC IN FIELD.  
 S - WALL MOUNTED MANUAL 3-WAY TOGGLE SWITCH.  
 S - WALL MOUNTED DIMMER SWITCH

DATE	REVISION



LOCATION:

PROJECT INFORMATION:  
 DATE: 01/15/2025  
 PROJECT NUMBER: 12402-25  
 AREA: 4,440 SQ. FT.  
 DRAWN BY: NYE REVIEWED BY: NYE

TITLE:  
**ELECTRICAL LIGHTING PLAN**

SHEET NUMBER:

**E2.0**





# ELECTRICAL PANEL SCHEDULE AND LOAD SUMMARY

## ELECTRICAL PANEL SCHEDULE

PANELBOARD NO.	EQT TAG	DESCRIPTION	VOLTAGE		PHASE	BUS RATING		WIRE		DESCRIPTION	EQT TAG	EQT TAG	EQT TAG	
			150A	277 / 480V		150A	125A	120 / 208V						
1	(E)	NEW HVAC UNIT 'ACCU-1'	3	12	15	3,045	A	12,988	110	3	3	EXISTING 75KVA TRANSFORMER FEEDING PANEL 'L1' & 'L2'	(E)	2
7	(E)	NEW HVAC UNIT 'ACCU-2'	3	12	15	2,602	B	2,602	20	1	1	SPARE	(E)	8
11		SPARE	1	20	20	2,602	C	20	1	1	1	SPARE	(E)	12
13		SPARE	1	20	20		A	20	1	1	1	SPARE	(E)	14
15		SPARE	1	20	20		B	20	1	1	1	SPARE	(E)	16
17		SPARE	1	20	20		C	20	1	1	1	SPARE	(E)	18

ALL PHASES TO BE BALANCED TO WITHIN 7%  
 A= 18,515 WATTS  
 B= 10,455 WATTS  
 C= 22,237 WATTS

(E) EXISTING TO REMAIN  
 (N) NEW CIRCUIT  
 GFCI GROUND FAULT CURRENT INTERRUPTER  
 IG CIRCUITS WITH ISOLATED GROUND  
 TC CIRCUITS ON TIMECLOCK  
 EMS ROUTING TO THE EMS PANEL  
 C BREAKER LOCK  
 a,b,c SWITCHES CONTROLLING LIGHTS

## ELECTRICAL PANEL SCHEDULE

PANELBOARD NO.	EQT TAG	DESCRIPTION	VOLTAGE		PHASE	BUS RATING		WIRE		DESCRIPTION	EQT TAG	EQT TAG	EQT TAG	
			125A	120 / 208V		125A	120 / 208V							
1	(N)	STOREFRONT SIGN	1	12	20	500	A	500	20	12	1	LIGHTING CONTROL PANEL	(N)	2
3	(N)	LED WALL	1	12	20	500	B	500	20	12	1	SPARE	(E)	4
5	(N)	SHOW WINDOW OUTLETS	1	12	20	1,600	C	550	20	12	1	FITTING ROOM MIRROR LIGHTS	(N)	6
7	(N)	SHOW WINDOW OUTLETS	1	12	20	1,600	A	300	20	12	1	SALES AREA FOCUS LIGHTING	(N)	8
9	(N)	LED WALL	1	12	20	500	B	500	20	12	1	SALES AREA TRACKLIGHT	(N)	10
11	(N)	LED WALL	1	12	20	500	C	720	20	12	1	SALES AREA TRACKLIGHT	(N)	12
13	(N)	STOREFRONT TRACKLIGHT	1	12	20	240	A	720	20	12	1	SALES AREA TRACKLIGHT	(N)	14
15	(E)	EXISTING BOH LIGHTING	1	12	20	1,200	B	720	20	12	1	SALES AREA TRACKLIGHT	(N)	16
17	(N)	STOREFRONT AX SIGN	1	12	20	1,200	C	350	20	12	1	SALES AREA TRACKLIGHT	(N)	18
19	(N)	REG. ILLUMINATED PROPS	1	12	20	720	A	100	20	12	1	EYEWEAR DISPLAY	(N)	20
21	(N)	STOREFRONT FOCUS LIGHTING	1	12	20	300	B	500	20	12	1	STOREFRONT COVE LIGHT	(N)	22
23	(N)	SALES AREA RECEPTACLE	1	12	20	720	C	1,300	20	12	1	UPPER FASCIA LED	(N)	24
25	(N)	SALES AREA RECEPTACLE	1	12	20	720	A	1,500	20	12	1	UPPER FASCIA LED	(N)	26
27	(N)	STOREFRONT LOGO	1	12	20	1,200	B	1,200	20	12	1	ILLUMINATED BLADE SIGN	(N)	28
29	(N)	VIDEO BANNER	1	12	20	1,200	C	20	20	1	1	SPARE	(E)	30
31	(N)	VIDEO BANNER	1	12	20	1,200	A	20	1	1	1	SPARE	(E)	32
33		SPARE	1	20	20		B	20	1	1	1	SPARE	(E)	34
35		SPARE	1	20	20		C	20	1	1	1	SPARE	(E)	36
37		SPARE	1	20	20		A	20	1	1	1	SPARE	(E)	38
39		SPARE	1	20	20		B	20	1	1	1	SPARE	(E)	40
41		SPARE	1	20	20		C	20	1	1	1	SPARE	(E)	42

ALL PHASES TO BE BALANCED TO WITHIN 7%  
 A= 8,600 WATTS  
 B= 6,740 WATTS  
 C= 8,340 WATTS

(E) EXISTING TO REMAIN  
 (N) NEW CIRCUIT  
 GFCI GROUND FAULT CURRENT INTERRUPTER  
 IG CIRCUITS WITH ISOLATED GROUND  
 CLP CURRENT LIMITER PANEL  
 LIGHTING CONTROL PANEL  
 C BREAKER LOCK  
 a,b,c SWITCHES CONTROLLING LIGHTS

## ELECTRICAL PANEL SCHEDULE

PANELBOARD NO.	EQT TAG	DESCRIPTION	VOLTAGE		PHASE	BUS RATING		WIRE		DESCRIPTION	EQT TAG	EQT TAG	EQT TAG	
			100A	120 / 208V		125A	120 / 208V							
1	(E)	NEW HVAC UNIT 'AHU-1'	2	12	15	728	A	300	20	12	1	PANTRY OUTLET	(N)	2
3	(E)	NEW HVAC UNIT 'AHU-2'	2	12	15	728	B	1,300	20	12	1	MICROWAVE	(N)	4
5	(E)	NEW HVAC UNIT 'AHU-3'	2	12	15	520	C	360	20	12	1	BOH & RESTROOM AREA RECEPTACLE	(N)	6
7	(E)	EXISTING WATER HEATER (EX-EWH)	2	10	30	500	A	720	20	12	1	MANAGER'S DESK RECEPTACLE	(N)	8
9	(E)	EXISTING WATER HEATER (EX-EWH)	2	10	30	1,800	B	720	20	12	1	SHIPPING & RECEIVING RECEPTACLE	(N)	10
11	(N)	SENSOR WATER SYSTEM	1	12	20	500	A	500	20	12	1	EXISTING MOTORISED DAMPERS	(N)	12
13	(N)	CASHWRAP RECEPTACLES	1	12	20	360	B	700	20	12	1	IF RACK	(N)	14
15	(N)	CASHWRAP RECEPTACLES	1	12	20	360	C	3,600	30	10	1	REFRIGERATOR	(N)	16
17	(N)	CASHWRAP RECEPTACLES	1	12	20	720	A	3,600	30	10	1	INSTA. WATER HEATER	(N)	18
19	(N)	INVERTER (HW)	1	12	20	720	A	360	20	12	1	REC. CHARGING DEVICES	(N)	20
21	(E)	HVAC RECEPT	1	12	20	360	B	200	20	12	1	WATER COOLER	(N)	22
23	(N)	UNDER CABINET LIGHTING	1	12	20	750	C	360	20	12	1	UNDER CABINET LIGHTING	(N/GFCI)	24
25		SPARE	1	20	20		A	20	1	1	1	SPARE	(E)	26
27		SPARE	1	20	20		B	20	1	1	1	SPARE	(E)	28
29		SPARE	1	20	20		C	20	1	1	1	SPARE	(E)	30
31		SPARE	1	20	20		A	20	1	1	1	SPARE	(E)	32
33		SPARE	1	20	20		B	20	1	1	1	SPARE	(E)	34
35		SPARE	1	20	20		C	20	1	1	1	SPARE	(E)	36
37		SPARE	1	20	20		A	20	1	1	1	SPARE	(E)	38
39		SPARE	1	20	20		B	20	1	1	1	SPARE	(E)	40
41		SPARE	1	20	20		C	20	1	1	1	SPARE	(E)	42

ALL PHASES TO BE BALANCED TO WITHIN 7%  
 A= 4,288 WATTS  
 B= 4,068 WATTS  
 C= 8,250 WATTS

(E) EXISTING TO REMAIN  
 (N) NEW CIRCUIT  
 GFCI GROUND FAULT CURRENT INTERRUPTER  
 IG CIRCUITS WITH ISOLATED GROUND  
 CLP CURRENT LIMITER PANEL  
 LIGHTING CONTROL PANEL  
 C BREAKER LOCK  
 a,b,c SWITCHES CONTROLLING LIGHTS

## ELECTRICAL LOAD SUMMARY

DESCRIPTION	NEC CONNECTED KW	VOLT	PHASE	NEC DEMAND FACTOR	NEC DEMAND KW
LIGHTING - 20W	2.7	120	1	1.25	3.4
DISPLAY LIGHTING	8.6	120	1	1.25	10.8
ILLUMINATED BLADE SIGN	1.2	120	1	1.25	1.5
TRACK LIGHTS	3.1	120	1	TRACK LENGTH	3.9
RECEPTACLES	9.7	120	1	>10KW=10+(0.5*(KW-10))	9.7
STOREFRONT SIGN	2.4	120	1	1.25	3.0
S/W OUTLETS	3.0	120	1	1.25	3.8
AHU	2.5	208	1	1.00	2.5
PANTRY EQUIPMENT	1.9	120	1	1.00	1.9
ACCU	16.9	480	3	1.00	16.9
EXISTING HOT WATER HEATER	3.6	208	1	1.00	3.6
INSTANTANEOUS HOT WATER HEATER	3.6	120	1	1.00	3.6
TOTALS	59.2				64.5

NOTES:  
 \* USE GREATER VALUE OF THE TWO CATEGORIES.  
 \*\* 125% OF THE LARGEST MOTOR OR COMPRESSOR IN SYSTEM APPLIED ONLY ON ONE UNIT.  
 \*\*\* N.E.C. ARTICLE 220-12 REQUIREMENT (200 VA PER FOOT OF SHOW WINDOW) MINUS ACTUAL SHOW WINDOW LIGHTING KVA.

N.E.C. DEMAND KVA x 1.000 = 64.5  
 SYSTEM VOLTAGE x 1.732 = 480  
 64.5 x 1.000 = 64,462  
 480 x 1.732 = 831

MINIMUM FEEDER AMPERAGE  
 77.5 AMPS USE (EXISTING) 150AMP FEEDER.

### PANEL SCHEDULE GENERAL NOTES:

- ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING OF THE EXISTING DEVICES ON FIELD AND INFORM ENGINEER FOR DISCREPANCIES.
- ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
- ALL EXISTING TO REMAIN ELECTRICAL DEVICES/EQUIPMENTS SHALL BE CONNECTED TO RESPECTIVE NEW/EXISTING PANELS. E.C. TO VERIFY EXACT DETAILS & CIRCUIT NUMBER ON FIELD.
- ELECTRICAL CONTRACTOR TO COORDINATE WITH THE MANUFACTURER OF EQUIPMENT FOR THE WIRE SIZE & RATING OF MOCB BEFORE THE COMMENCEMENT OF WORK.
- ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENT OF PLUMBING/MECHANICAL EQUIPMENTS WITH RESPECTIVE SYSTEM CONTRACTOR/OWNER/ARCHITECT.
- E.C. SHALL VERIFY THE EXISTING CIRCUIT, CIRCUIT NUMBER IN FIELD & ADJUST / MODIFY CIRCUITING AS REQUIRED.

### EXISTING PANELBOARD KEYED NOTE: #

- NEW BREAKERS MAY BE REQUIRED FOR USE IN THE EXISTING PANELBOARD TO MATCH RATING INDICATED IN THE PANEL SCHEDULE. PRIOR TO BIDDING, THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EXISTING-TO-REMAIN PANELBOARD MANUFACTURER AND MODEL NUMBER TO ENSURE THAT REPLACEMENT BREAKERS ARE AVAILABLE. WHERE BREAKER AVAILABILITY ISSUES ARISE, NOTIFY THE PROJECT MANAGER PRIOR TO BIDDING.
- DESIGNATED CIRCUIT NUMBER SHOWN ON THE PANEL SCHEDULE FOR A CERTAIN LOAD, MAY BE DIFFERENT THAN THE ACTUAL CIRCUIT NUMBER IN THE EXISTING PANELBOARD. ALL EXISTING-TO-REMAIN ELECTRICAL LOADS SHALL REMAIN CONNECTED TO THE SAME BREAKER AND CIRCUIT DESIGNATION. AVAILABLE SPACES AND SPACES SHALL BE UTILIZED TO FEED THE NEW LOADS.

CODE NOTE PER NEC 408.4: EVERY CIRCUIT AND CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE. THE IDENTIFICATION SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. CIRCUIT DIRECTORY SHALL BE LOCATED ON THE FACE OR INSIDE THE PANEL DOOR IN THE CASE OF THE PANELBOARD.

CONTRACTOR TO VERIFY ANY EXISTING CIRCUITS TO REMAIN, MAINTAIN AS REQUIRED. CONTRACTOR TO MAKE UNUSED BRANCH CIRCUIT BREAKER SPARE AND AVAILABLE FOR NEW CIRCUIT.

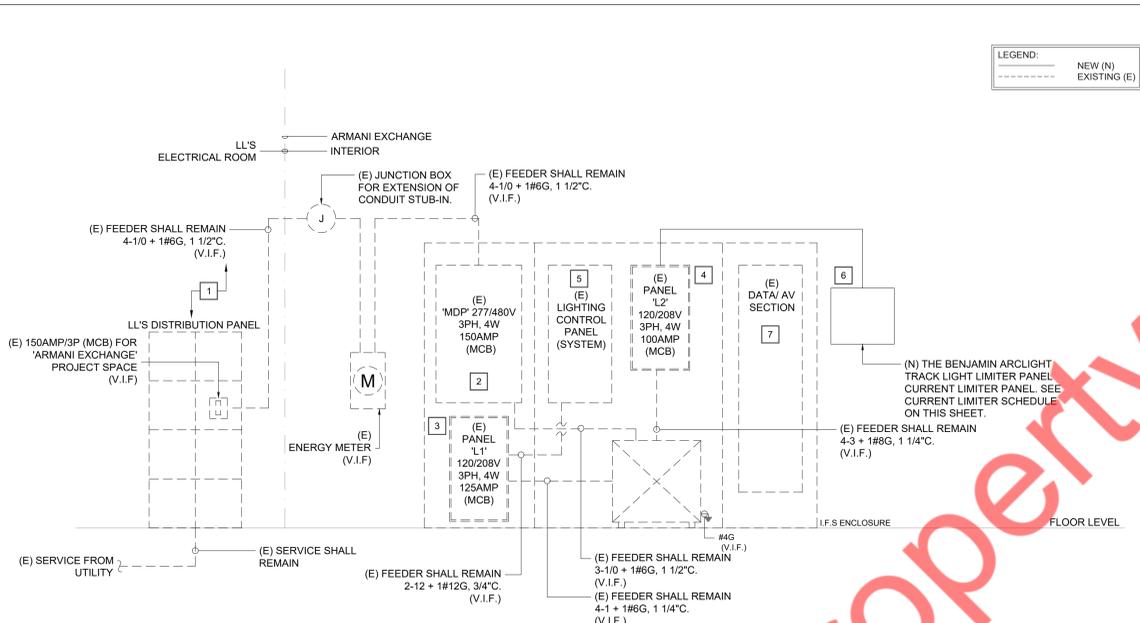
ALL ELECTRICAL WORK SHALL BE DESIGNED PER 2022 CALIFORNIA ELECTRICAL CODE (CEC-2020), AND CALIFORNIA ENERGY COMPLIANCE CODE 2022 (TITLE 24)

ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.

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

Reuse of existing service, metering, panelboards, transformers, conduit, wire, etc. is subject to building dept. and landlord approval. Verify if allowed to reuse, and if any work is required by the building dept. or the landlord, with the building dept. the tenant's architect and LANDLORD Mail Operations Manager prior to bid.  
 • Any work outside of tenant's space shall be by a landlord approved electrical contractor at the tenant's expense.

## ELECTRICAL RISER DIAGRAM



All existing conditions are as-is where-is. There is no landlord's work. Tenant GC must field verify prior to submit the bid.

## RISER KEY NOTES

- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LANDLORD/OWNER FOR EXACT POWER DISTRIBUTION, LOCATION PRIOR TO COMMENCING ANY WORK. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCIES. BASE BID ACCORDINGLY.
- EXISTING 150A (MCB), 277/480V, 3-PHASE, 4-WIRE "MDP" TO REMAIN. ELECTRICAL CONTRACTOR TO FIELD VERIFY THE OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 125A (MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "L1" TO REMAIN. ELECTRICAL CONTRACTOR TO FIELD VERIFY THE OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING 100A (MCB), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "L1" TO REMAIN. ELECTRICAL CONTRACTOR TO FIELD VERIFY THE OPERABLE CONDITION OF THE PANEL. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- ELECTRICAL CONTRACTOR TO FIELD VERIFY THE OPERABLE CONDITION OF EXISTING LIGHTING CONTROL PANEL. REPLACE IF POSSIBLE. OTHERWISE PROVIDE NEW LIGHTING CONTROL PANEL/TIMER WITH A OVERRIDE SWITCH AS PER AX STANDARDS. BASE BID ACCORDINGLY.
- PROVIDE NEW BENJAMIN ARCLIGHT TRACK LIGHT LIMITER PANEL. ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENT WITH ARCHITECT/OWNER TO ROUGH-IN. BASE BID ACCORDINGLY.
- EXISTING IT/AV RACK. G.C TO PRICE ALT 1: DISCONNECT AND REPLACE WITH NEW IT RACK AND NEW AV RACK, ALT2: CHECK WORKING IN GOOD CONDITIONS.

### VERIFY THE FOLLOWING PRIOR TO BIDDING:

- EXISTING CONDUIT AND FEEDERS SIZE BETWEEN TENANT SPACE AND LANDLORD SWITCHBOARD.
  - EXISTING MAIN SERVICE DISCONNECT RATING.
  - EXISTING METER.
- IF THE EXISTING SERVICE DISCONNECT AND FEEDERS ARE RATED FOR LESS THAN THE RATING SHOWN ON THIS RISER, NOTIFY THE PROJECT MANAGER AND ENGINEER IMMEDIATELY PRIOR TO SUBMITTING BID. PRICING PACKAGE SO DRAWINGS CAN BE REVISED AND UPDATED ACCORDINGLY.

ELECTRICAL WORK BEING SHOWN IN SCHEMATIC IS EXISTING UNLESS OTHERWISE NOTED.

CONTRACTOR TO VERIFY EXISTING CONDUIT DURING BIDDING STAGE AND REPORT TO TENANT ARCHITECT ANY DISCREPANCIES THAT IS DIFFERENT THAN SHOWN ON PLANS.

CONTRACTOR TO PROVIDE NEW NAME PLATE ON ELECTRICAL METER FOR IDENTIFICATION.

## LCP & CURRENT LIMITER PANEL SCHEDULE

CHANNEL	CIRCUIT .NO	LOAD NAME	ZONE				
			1	2	3	4	5
1	L1-1	STOREFRONT SIGN	X				
2	L1-13	STOREFRONT TRACKLIGHT	X				
3	L1-5	S/W OUTLETS	X				
4	L1-7	S/W OUTLETS	X				
5	L1-17	STOREFRONT AX SIGN	X				
6	L1-19	ILLUMINATED PROPS	X				
7	L1-21	STOREFRONT AX FOCUS LIGHTS	X				
8	L1-27	STOREFRONT LOGO	X				
9	L1-28	ILLUMINATED BLADE SIGN	X				
10	L1-22	STOREFRONT COVE LIGHTS	X				
11	L1-24	UPPER FASCIA LED	X				
12	L1-26	UPPER FASCIA LED	X				
13	L1-6	FITTING RM LIGHTS	X				
14	L1-8	SALES AREA FOCUS LIGHTS					

ENERGY ANALYSIS

STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 1 of 8)
Date Prepared: 2025-02-27T01:38:44-05:00

STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 2 of 8)
Date Prepared: 2025-02-27T01:38:44-05:00

STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 3 of 8)
Date Prepared: 2025-02-27T01:38:44-05:00

STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 4 of 8)
Date Prepared: 2025-02-27T01:38:44-05:00

STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 5 of 8)
Date Prepared: 2025-02-27T01:38:44-05:00

STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 6 of 8)
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STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
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CERTIFICATE OF COMPLIANCE
Project Name: AX
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STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION
Indoor Lighting
CERTIFICATE OF COMPLIANCE
Project Name: AX
Report Page: (Page 8 of 8)
Date Prepared: 2025-02-27T01:38:44-05:00

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382 NE 191ST STREET SUITE 49674, MIAMI, FL 33179
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PROFESSIONAL SEAL:

CONTRACTOR'S NOTES:
WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS. THE CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE CONTRACT TO THE TENANT'S REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. CHANGE ORDERS NEED TO BE APPROVED BY ARMANI EXCHANGE CONSTRUCTION MANAGER FOR ISSUES ARISING FROM THE FIELD CONDITIONS OR CONFLICTS BETWEEN THE PLANS AND THE EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.

Table with 2 columns: DATE, ISSUE. Row 1: 02/25/25, CD SET - CLIENT/LL REVIEW. Row 2: 03/24/25, PERMIT SET.

DATE REVISION



LOCATION:

PROJECT INFORMATION:
DATE: 01/15/2025
PROJECT NUMBER: 12402-25
AREA: 4,440 SQ. FT.
DRAWN BY: NYE REVIEWED BY: NYE

TITLE:
ENERGY ANALYSIS (TITLE 24)

SHEET NUMBER:

E5.0



BUILDING DATA									
PROJECT DESCRIPTION		BUILDING OCCUPANCY			BUILDING DESCRIPTION				FIRE ALARM SYSTEM FEATURES
NEW BUILDING		ASSEMBLY GROUP A (A1, A2, A3, A4 AND A5)	RESIDENTIAL GROUP R (R1, R2 AND R3)	2	TOTAL NUMBER OF LEVELS	ATRIUM	STAIR PRESSURIZATION	NON-VOICE EVACUATION	
FIRE ALARM SYSTEM UPGRADE	X	BUSINESS GROUP B	STORAGE GROUP S (S1 AND S2)	2	ABOVE GROUND LEVELS	FIRST FL	FIRE DEPARTMENT ACCESS	POST FIRE SMOKE PURGE	VOICE EVACUATION
LIFE SAFETY SYSTEM UPGRADE		EDUCATIONAL GROUP E	UTILITY AND MISCELLANEOUS GROUP U	-	BELOW GROUND LEVELS	X	FULLY SPRINKLERED	GENERATOR	PARTIAL/SELECTIVE EVACUATION
X	RENOVATION	FACTORY INDUSTRIAL GROUP F (F1 AND F2)	OTHER:	-	NUMBER OF ELEVATOR BANKS		PARTIALLY SPRINKLERED	FIRE PUMP	X
	EMERGENCY REPAIR	HIGH-HAZARD GROUP H (H1, H2, H3, H4 AND H5)		-	NUMBER OF EGRESS STAIRS		NON-SPRINKLERED	OTHER:	DIGITAL ALARM COMMUNICATOR
	TENANT ADDITION	INSTITUTIONAL GROUP I (I1, I2 AND I3)					PRE-ACTION SPRINKLER	OTHER:	PRE-SIGNAL SYSTEM
	OTHER:	MERCANTILE GROUP M							FIRE FIGHTER'S TELEPHONE SYSTEM

**FIRE ALARM I/O MATRIX**

SYSTEM INPUTS INITIATING DEVICES	SYSTEM OUTPUTS		CONTROL UNIT ANNUNCIATION			NOTIFICATION					REQUIRED FIRE SAFETY CONTROL						
	INDICATING/CONTROLLED DEVICES		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	MANUAL PULL STATION		●														1
2	WATERFLOW SWITCH		●														2
3	AREA SMOKE DETECTOR		●														3
4	SPRINKLER CONTROL VALVE/TAMPER SWITCH			●													4
5	FIRE ALARM AC POWER FAILURE				●												5
6	FIRE ALARM SYSTEM LOW BATTERY				●												6
7	OPEN CIRCUIT				●												7
8	GROUND CIRCUIT				●												8
9	NOTIFICATION APPLIANCE CIRCUIT SHORT				●												9

**ABBREVIATIONS**

AFF	ABOVE FINISHED FLOOR	HC	HUNG CEILING
C	CONDUIT	HC	HUNG CEILING
DGP	DATA GATHERING PANEL	NE	NEW TO REPLACE EXISTING
E	EXISTING	NTS	NOT TO SCALE
EL	EXISTING TO BE LOWERED	R	REMOVE
ELV	ELEVATOR LOBBY	RCU	REMOTE COMPUTER UNIT
EMT	ELECTRIC METALLIC TUBING	RE	RELOCATED EXISTING
ER	EXISTING TO BE RELOCATED	RGS	RIGID GALVANIZED STEEL
FA	FIRE ALARM	RP	RELOCATED POSITION
FCS	FIRE COMMAND STATION	UON	UNLESS OTHERWISE NOTED
FDS	FUSED DISCONNECT SWITCH	W	WIRE
G	GROUND		

**FIRE ALARM SYMBOL LIST**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
FD	STROBE LIGHT DEVICE, WALL MOUNTED	FI	FIRE ALARM MANUAL PULL STATION, WALL MOUNTED (48" AFF)
FD	STROBE LIGHT DEVICE, CEILING MOUNTED	ITS	TAMPER SWITCH
HM	WALL MOUNTED HORN/STROBE COMBINATION DEVICE	WFS	WATER FLOW SWITCH
HM	CEILING MOUNTED HORN/STROBE COMBINATION DEVICE	MM	MONITOR MODULE
S	CEILING MOUNTED AREA SMOKE DETECTOR	RI	FIRE ALARM RELAY
FACP	FIRE ALARM CONTROL PANEL	CM	CONTROL MODULE
D	DUCT MOUNTED SMOKE DETECTOR	---	SOLID THICK LINE INDICATES NEW DEVICE OR WIRING
FSD	FIRE SMOKE DAMPER	----	DOTTED LINE INDICATES EXISTING DEVICE OR WIRING

**TYPE OF DESIGN:**

INSTALLATION OF NEW FA DEVICES, ALONG WITH MODIFICATIONS TO THE EXISTING MANUAL AND AUTOMATIC SMOKE DETECTION, NOTIFICATION SYSTEM AND A SPRINKLER ALARM SYSTEM, UTILIZING THE EXISTING FIRE ALARM CONTROL PANEL (FACP), NO CHANGE IN USE OCCUPANCY OR EGRESS.

**DRAWINGS LIST**

FA1.0	FIRE ALARM NOTES, BUILDING DATA, SYMBOL LIST, ABBREVIATIONS, PLOT PLAN, I/O MATRIX & RISER DIAGRAM
FA2.0	FIRE ALARM PLAN

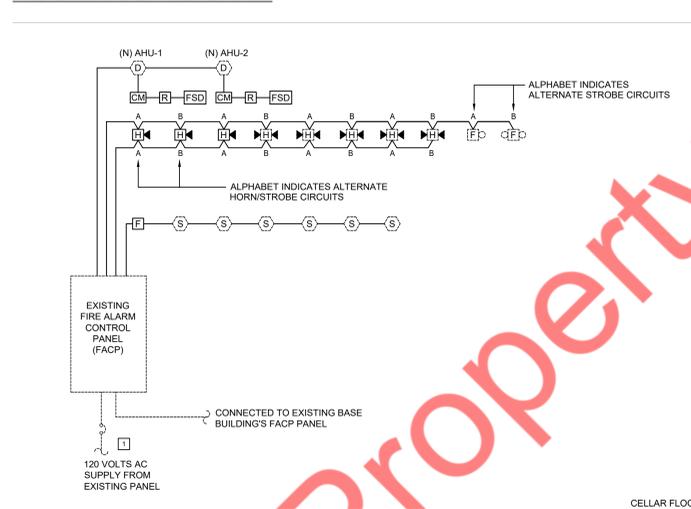
**APPLICABLE CODES**

01	2022 CALIFORNIA BUILDING CODE WITH AMENDMENTS & ADDITION FROM IBC 2021
02	2022 CALIFORNIA ENERGY CODE (TITLE 24)
03	2022 CALIFORNIA ELECTRICAL CODE

**FIRE ALARM NOTES:**

- ALL EQUIPMENT AND WIRING INDICATED ON THESE PLANS IS NEW (U.O.N.).
- PROVIDE WIRING AS REQUIRED BETWEEN ALL DEVICES AND EQUIPMENT AS REQUIRED TO PERFORM FIRE ALARM SYSTEM FUNCTIONS.
- WIRING FOR FIRE ALARM DEVICES IN FINISHED SPACES WITHOUT HUNG CEILING SHALL BE INSTALLED IN EMT CONDUIT.
- ALL STROBES AND HORN/STROBES SHALL BE FLUSH WALL MOUNTED FINISH BY ARCHITECT, APPROVED FOR USE IN CALIFORNIA STATE.
- ALL DUCT SMOKE DETECTORS INSTALLED IN HUNG CEILING AREA AND IN OUT OF SIGHT AREA SHALL HAVE REMOTELY INSTALLED STATUS INDICATOR LAMPS, COORDINATE EXACT LOCATION WITH ARCHITECT AND GENERAL CONTRACTOR.
- FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
- WIRING FOR FIRE ALARM DEVICES IN UNFINISHED SPACES SHALL BE INSTALLED IN RGS CONDUIT UP TO 8'-0" AFF AND THEN IN EMT CONDUIT ABOVE 8'-0" AFF.
- FOR LOCATIONS AND QUANTITIES OF DEVICES REFER TO FIRE ALARM FLOOR PLANS. WHERE THERE ARE DISCREPANCIES BETWEEN THE PLANS AND THE RISER DIAGRAM, THE GREATER QUANTITY SHALL BE USED.
- CONTRACTOR SHALL VERIFY ALL WIRING WITH FIRE ALARM VENDOR AND OBTAIN WIRING DIAGRAMS BEFORE PROCEEDING WITH THE START OF ANY WORK.
- ALL WIRING SHALL BE IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE 2022 (CEC 2022).
- PROVIDE FAN SHUT DOWN CAPABILITY FOR FANS WITH A RATING LARGER THAN 2,000 CFM. SHUT DOWN SHALL BE ACCOMPLISHED BY ONE OR MORE OUTPUT CONTROL POINTS FROM THE FIRE ALARM SYSTEM TO RELAYS FOR SHUTDOWN. PROVIDE CONTROL AND MONITORING FOR ALL RELAYS. PROVIDE POWER, CONTROL RELAYS, MONITORING AND WIRING FOR ALL FIRE/SMOKE DAMPERS.
- DUCT DETECTORS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR ALONG WITH FURNISHING OF THE SAMPLING TUBES. DUCTWORK MODIFICATIONS AND INSTALLATION OF SAMPLING TUBES SHALL BE BY THE MECHANICAL CONTRACTOR. FOR FANS RATED LARGER THAN 2,000 CFM PROVIDE DUCT DETECTORS IN SUPPLY AND RETURN DUCTWORK.
- PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, FUSE CUTOUPS AND BRANCH CIRCUITS, ETC. FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
- STROBES AND HORNS SHALL BE WIRED ON ALTERNATING A-B CIRCUITING IN ALL AREAS, AS INDICATED ON THE RISER DIAGRAM.
- CONTRACTOR SHALL PERFORM ALL BUILDING DEPT. FILINGS AND OBTAIN ALL APPROVALS. CONTRACTOR SHALL OBTAIN ALL REQUIRED SIGNED & SEALED BUILDING DEPT. FORMS AND ALL REQUIRED SETS OF DRAWINGS FROM ENGINEER OF RECORD AND BUILDING DEPT. EXPEDITOR.
- UPON COMPLETION OF INSTALLATION THE SYSTEM SHALL BE 100% PRE-TESTED BY THE FIRE ALARM VENDOR AND THE LICENSED ELECTRICAL CONTRACTOR PRIOR TO FDNY INSPECTION.
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER A MARKUP OF FA DRAWINGS INDICATING "AS-BUILT" CONDITIONS FOR ENGINEER'S REFERENCE. IN PREPARING "AS-BUILT" DRAWINGS FOR FILING, CONTRACTOR SHALL SIGN "AS-BUILT" STATING A FUNCTIONAL TEST HAS BEEN CONDUCTED OF THE FIRE ALARM SYSTEM AND THE SYSTEM OPERATES AS DESIGNED AND IN ACCORDANCE WITH THE INPUT/OUTPUT PROGRAMMING MATRIX IN ACCORDANCE WITH 3 RCVY & 105-01.

**FIRE ALARM SYSTEM RISER DIAGRAM**



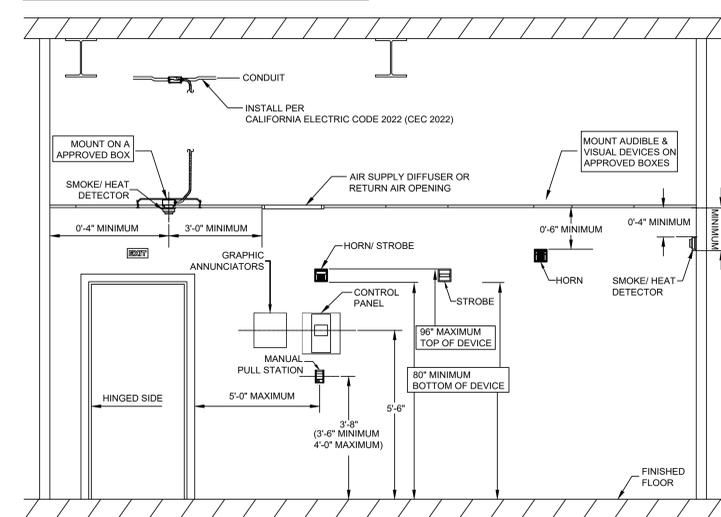
**FIRE ALARM RISER NOTES:**

- ALL COMPONENTS REQUIRED TO MAKE SYSTEM WORKABLE SHALL BE INCLUDED IN BID PRICE.
- EACH FA RELAY SHALL HAVE MINIMUM OF THREE SETS OF 2 CONTACT 10A RATED @ 120V (TYPICAL).
- ALL DUCT SMOKE DETECTORS INSTALLED IN HUNG CEILING AREA AND IN OUT OF SIGHT AREA SHALL HAVE REMOTELY INSTALLED STATUS INDICATOR LAMPS. COORDINATE EXACT LOCATION WITH ARCHITECT AND GENERAL CONTRACTOR.
- FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
- ALL FIRE ALARM WIRING SHALL BE INSTALLED IN CONDUIT WHERE REQUIRED BY CALIFORNIA ELECTRICAL CODE 2022 (CEC 2022).
- THIS RISER DIAGRAM IS A SCHEMATIC REPRESENTATION OF THE FIRE ALARM SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF DEVICES.
- ALL FIRE ALARM CONDUITS SHALL BE MINIMUM 3/2".
- ALL FIRE ALARM CIRCUITS SHALL BE WIRED NFPA STYLE 41YB (CLASS B) WITH THE EXCEPTION OF THE NETWORK CIRCUIT WHICH SHALL BE NFPA STYLE 7 (CLASS A WITH ISOLATION). DUAL CLASS B NETWORKING IS NOT STYLE 7 AND WILL NOT BE APPROVED.

**KEYED WORK NOTES:**

- THE CIRCUIT BREAKER FEEDING THE FACP SHALL BE IDENTIFIED RED WITH CIRCUIT BREAKER LOCK INSTALLED.

**FIRE ALARM DEVICES TYPICAL MOUNTING HEIGHT:**



**CONSULTANTS (ENGINEER):**

**NY ENGINEERS**

NEARBY ENGINEERS  
382 NE 191ST STREET SUITE 49674,  
MIAMI, FL 33179  
PH-914.257.3455  
WWW.NY-ENGINEERS.COM

**PROFESSIONAL SEAL:**

**CONTRACTOR'S NOTES:**

WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS. THE CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE CONTRACT TO THE TENANT'S REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. CHANGE ORDERS NEED TO BE APPROVED BY ARMANI EXCHANGE CONSTRUCTION MANAGER FOR ISSUES ARISING FROM THE FIELD CONDITIONS OR CONFLICTS BETWEEN THE PLANS AND THE EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.

DATE	ISSUE
02/25/25	CD SET - CLIENT/LL REVIEW
03/24/25	PERMIT SET

**REVISION**

DATE REVISION

**A|X**  
ARMANI EXCHANGE

**LOCATION:**

**PROJECT INFORMATION:**

DATE: 01/15/2025  
PROJECT NUMBER: 12402-25  
AREA: 4,440 SQ. FT.  
DRAWN BY: NYE REVIEWED BY: NYE

**TITLE:**

FIRE ALARM NOTES, BUILDING DATA, SYMBOL LIST, ABBREVIATIONS, PLOT PLAN, I/O MATRIX & RISER DIAGRAM

**SHEET NUMBER:**

**FA1.0**

LEGEND:  
 - - - - - NEW (N)  
 - - - - - EXISTING (E)



CONSULTANTS (ENGINEER):  
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 382 NE 191ST STREET SUITE 49674,  
 MIAMI, FL 33179  
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 WWW.NY-ENGINEERS.COM

PROFESSIONAL SEAL:

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1 FIRE ALARM PLAN  
3/8" = 1'-0"

**GENERAL NOTES**

- FIRE ALARM CONTRACTOR SHALL COORDINATE ALL THE FIRE ALARM DEVICE LOCATION WITH THE REFLECTED CEILING PLAN AND CONFIRM IN THE FIELD WITH ARCHITECT/OWNER.
- ALL DEVICES SHALL BE COMPATIBLE WITH AND MAINTAIN THE UL LISTING OF EXISTING FA SYSTEM.
- G.C. SHALL FIELD VERIFY EXACT REQUIREMENTS FOR FIRE ALARM SYSTEM PRIOR TO BID. SUPPLY AND INSTALL ALL NECESSARY EQUIPMENT AS REQUIRED.
- REFER TO DRAWING, FA1.0 FOR FIRE ALARM NOTES, SYMBOL LIST, ABBREVIATIONS.
- FINAL CONDUIT/CABLE ROUTING SHALL BE DETERMINED IN-FIELD, AND PRIOR TO THE COMMENCEMENT OF WORK, COORDINATED WITH OTHER TRADE CONTRACTORS AND THE OWNER.
- CONFIRM REQUIRED DEVICES AND SEQUENCE OF OPERATION WITH FIRE ALARM CONTRACTOR.

**FIRE ALARM SYMBOLS**

LEGEND	DESCRIPTION
	HORN/STROBE LIGHT DEVICE, CEILING MOUNTED
	HORN/STROBE LIGHT DEVICE, WALL MOUNTED
	WALL MOUNTED STROBE
	MANUAL PULL STATION
	SMOKE DETECTOR
	CEILING MOUNTED STROBE
	DUCT SMOKE DETECTOR
	MONITORING MODULE
	CONTROL MODULE
	TEMPER SWITCH
	WATER FLOW SWITCH
	RELAY

NOTE:  
 1. NOT ALL SYMBOLS MAY APPEAR ON DRAWINGS.  
 2. ALL OUTLETS TO BE WHITE.  
 ABBREVIATION:  
 (E) - EXISTING; (R) - EXISTING RELOCATED

**KEY NOTES**

- EXISTING FIRE ALARM PANEL TO REMAIN. CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION AND OPERABLE CONDITION IN FIELD WITH ARCHITECT/OWNER. PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- FIRE ALARM CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION & WORKABLE CONDITION OF FA DEVICES. REUSE EXISTING FA DEVICES, RELOCATE TO NEW LOCATION IF REQUIRED, OTHERWISE PROVIDE NEW. BASE BID ACCORDINGLY.
- ALL NEW DEVICES SHALL BE COMPATIBLE WITH AND MAINTAIN THE UL LISTING OF THE EXISTING FA SYSTEM. CONNECT ALL NEW FIRE ALARM SYSTEM DEVICES TO EXISTING FIRE ALARM CONTROL PANEL AS REQUIRED. BASE BID ACCORDINGLY.
- ALL NEW DEVICES SHALL BE CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL (FACP). CONTRACTOR SHALL COORDINATE THE EXACT LOCATION AND OPERABLE CONDITION IN FIELD IN COORDINATION WITH ARCHITECT/OWNER. BASE BID ACCORDINGLY.
- FIRE ALARM CONTRACTOR SHALL FIELD VERIFY IF FIRE ALARM PULL IS PROVIDED FOR THE PROJECT SPACE. IF NOT, PROVIDE NEW AS SHOWN. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER. BASE BID ACCORDINGLY.
- FIRE ALARM CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EXISTING TAMPER AND WATER FLOW SWITCHES IN FIELD. COORDINATE THE EXACT QUANTITY OF TAMPER AND WATER FLOW SWITCHES WITH SPRINKLER CONTRACTOR IN FIELD. BASE BID ACCORDINGLY.
- FIRE ALARM CONTRACTOR TO FIELD VERIFY THE OPERABLE CONDITION OF EXISTING DUCT SMOKE DETECTORS. PROVIDE NEW IF FOUND INOPERABLE. ALSO, COORDINATE EXACT LOCATION & ADDITIONAL INFORMATION WITH MECHANICAL CONTRACTOR IN FIELD.

DATE	REVISION



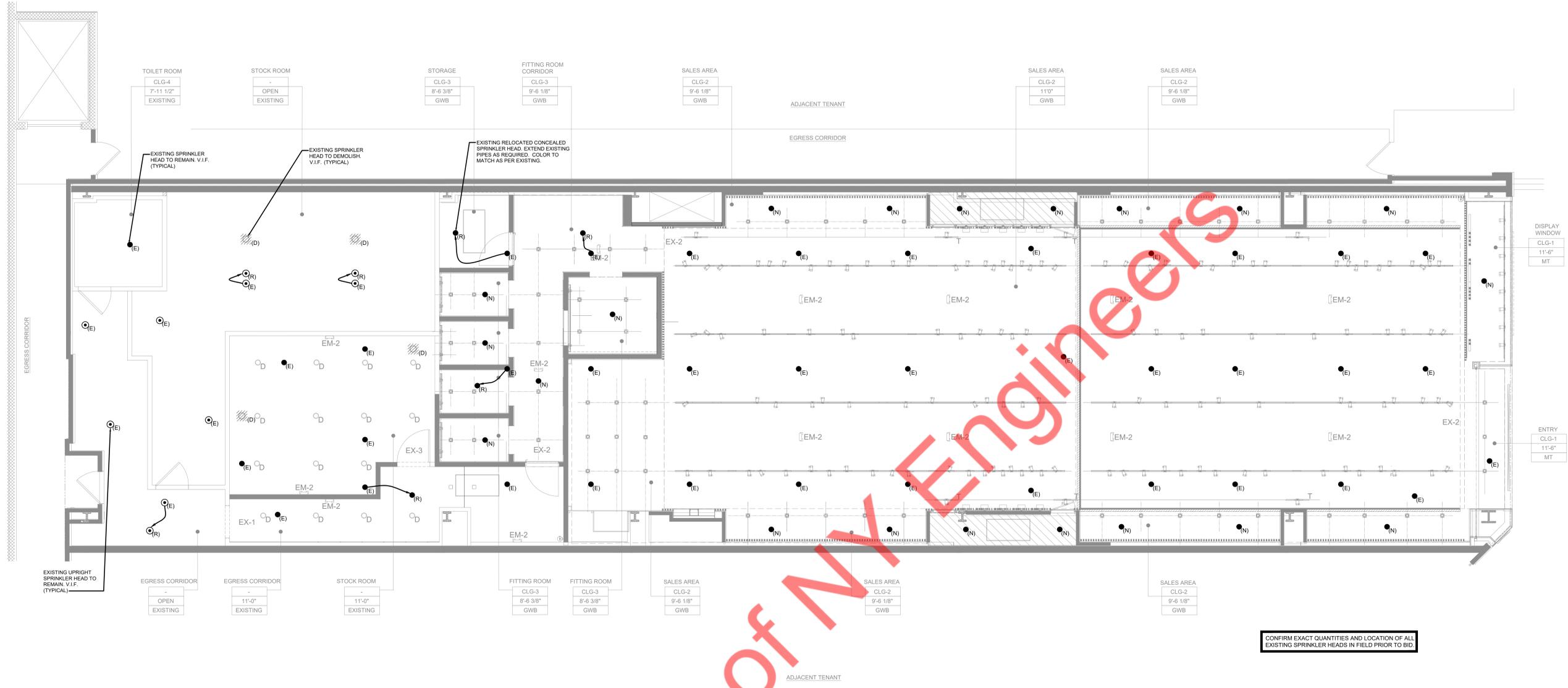
LOCATION:

PROJECT INFORMATION:  
 DATE: 01/15/2025  
 PROJECT NUMBER: 12402-25  
 AREA: 4,440 SQ. FT.  
 DRAWN BY: NYE      REVIEWED BY: NYE

TITLE:  
**FIRE ALARM PLAN**

SHEET NUMBER:

**FA2.0**



CONFIRM EXACT QUANTITIES AND LOCATION OF ALL EXISTING SPRINKLER HEADS IN FIELD PRIOR TO BID

1 FIRE SPRINKLER PLAN  
1/8" = 1'-0"

**SPRINKLER GENERAL NOTES**

- DESIGN/BUILD REQUIREMENTS**
  - THE SPRINKLER SUBCONTRACTOR, A LICENSED SUBCONTRACTOR OF THE TENANT'S GENERAL CONTRACTOR (USE ONLY DESIGNATED SPRINKLER SUBCONTRACTOR IF REQUIRED BY LANDLORD) IS REQUIRED TO MODIFY AN EXISTING SYSTEM AS PER THE LATEST N.F.P.A.-13, 2022 AND THE BUILDING LANDLORD'S INSURANCE UNDERWRITER'S REQUIREMENTS AND OTHER RELEVANT AUTHORITIES' REQUIREMENTS. SPRINKLER CONTRACTOR TO VERIFY WITH BUILDING LANDLORD AS TO THE BASIS FOR DESIGN - OCCUPANCY TYPE AND DENSITY, NORMAL OR HYDRAULIC.
  - THE SYSTEM SHALL BE DESIGNED TO MODIFY THE SPRINKLER HEADS WITHIN THE DEMISED PREMISES.
  - THE SPRINKLER HEAD TO BE USED IN THE ENTIRE SPACE WHERE A CEILING OCCURS ARE TO BE WHITE PLATED RECESSED TYPE, UNLESS THERE IS A SPECIAL TYPE HEAD REQUIRED BY THE LANDLORD. IF THIS IS THE CASE, THE SPRINKLER HEAD TO BE USED IS AS PER LANDLORD'S SPECIFICATION ONLY.
  - THE SPRINKLER CONTRACTOR SHALL INCLUDE IN HIS SUBMISSIONS FOR APPROVAL BY THE BUILDING LANDLORD AND REVIEW BY THE TENANT'S REPRESENTATIVE, A 1/4" SCALE SPRINKLER LAYOUT (UTILIZE TENANT'S REFLECTED CEILING PLAN.)
  - THE SPRINKLER SUBCONTRACTOR SHALL OBTAIN ALL APPROVALS FROM APPLICABLE AUTHORITIES FOR THE SPRINKLER SYSTEM.
  - OWNER, TENANT, CLIENT AND LESSEE ARE ALL THE SAME INDIVIDUAL OR COMPANY. THE LANDLORD AND LESSOR IS THE BUILDING LANDLORD AND/OR THE OWNER OR REPRESENTATIVE OF THE OWNER OF THE SHOPPING CENTER. LANDLORD'S ARCHITECT AND CONSTRUCTION REPRESENTATIVE MAY OR MAY NOT BE ONE AND THE SAME; TENANT'S ARCHITECT AND CONSTRUCTION REPRESENTATIVE MAY OR MAY NOT BE ONE AND THE SAME.
  - SINCE SPACE TO BE OCCUPIED WAS WHOLLY OR PARTIALLY ANOTHER SHOPPING CENTER OR BUILDING (AS APPLICABLE) TENANT, THE SPRINKLER SUBCONTRACTOR MUST CHECK SITE CONDITIONS TO ANALYZE IF MAINS, BRANCH LINES, ETC., MAY BE EXISTING LOWER THAN OR IN THE WAY OF THE NEW CEILING HEIGHT OR OVERHEAD GRILLE ASSEMBLY. IF THIS IS THE CASE, THEN COSTS FOR REMOVING, RELOCATING AND NEW, SHOULD BE INCLUDED IN THE SPRINKLER CONTRACTOR'S BID.
- THIS IS A NEW SYSTEM TO BE INSTALLED AS TO LAYOUT AND CAPACITY BASED ON TENANT'S FLOOR PLANS, CEILING PLANS, HEIGHTS AND SECTIONS AND THE LATEST N.F.P.A.-13 STANDARDS GOVERNING THIS USE. SPRINKLER SUBCONTRACTOR TO CHECK WITH LOCAL FIRE AUTHORITIES REGARDING ANY SPECIAL SPRINKLER REQUIREMENTS FOR SIDE WALL CASES (AS APPLICABLE).
- THIS IS AN EXISTING SYSTEM TO BE MODIFIED AS TO LAYOUT AND CAPACITY BASED ON TENANT'S FLOOR PLANS, CEILING PLANS, HEIGHTS AND SECTIONS AND THE LATEST N.F.P.A.-13 STANDARDS GOVERNING THIS USE. SPRINKLER SUBCONTRACTOR TO CHECK WITH LOCAL FIRE AUTHORITIES REGARDING ANY SPECIAL SPRINKLER REQUIREMENTS FOR SIDE WALL CASES (AS APPLICABLE).
- ALL SPRINKLER HEADS IN ACOUSTICAL SALES AREA CEILINGS TO BE IN CENTER OF TILES.
- GENERAL REQUIREMENTS**
  - IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE A COMPLETE INSTALLATION FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST AND MOST THOROUGH MANNER UNDER THE DIRECTION OF AND TO THE SATISFACTION OF THE BUILDING OWNER AND TENANT'S REPRESENTATIVE.
  - ALL MATERIALS REQUIRED FOR THIS WORK SHALL BE NEW, UNUSED BEST OF ITS RESPECTIVE KINDS, AND FREE FROM DEFECTS, AND OF FIRST CLASS QUALITY. BASIS OF QUALITY SHALL BE BASED ON THE LATEST STANDARDS OF THE N.F.P.A.-13, 2022 AND OTHER ACCEPTABLE STANDARDS.
  - THE SPRINKLER SUBCONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK UNTIL ITS COMPLETION AND FINAL ACCEPTANCE, AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE BUILDING OWNER OR TENANT.
  - THE SPRINKLER SUBCONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED AND MATERIALS INSTALLED BY HIM TO BE FREE FROM INHERENT DEFECTS, AND SHALL KEEP IN REPAIR AND REPLACE ANY DEFECTIVE MATERIALS OF WORKMANSHIP, FREE OF COST TO THE TENANT OR LESSEE (OWNER) FOR A PERIOD OF ONE (1) YEAR AFTER THE FINAL COMPLETION OF ALL THE WORK.
- ALL WORK SHALL BE DONE ACCORDING TO THE REQUIREMENTS OF ALL APPLICABLE CODES AND BUILDING/LANDLORD/TENANT LEASE CRITERIA (IF APPLICABLE) AND SHALL RECEIVE THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION. PREPARE ALL REQUIRED DOCUMENTS, DRAWINGS AND PERFORM ALL REQUIRED TESTS AND PAY ALL REQUIRED CHARGES TO OBTAIN THESE APPROVALS.
- THIS CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE SITE FOR HIS WORK AND REVIEWED THE DRAWINGS WITH THE TENANT'S GENERAL CONTRACTOR BEFORE HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE CONTRACT.
- THIS CONTRACTOR MUST PROVIDE TENANT, BUILDING LANDLORD, AND TENANT'S CONSTRUCTION REPRESENTATIVES WITH COPIES OF REQUIRED INSURANCE AND COPIES TO BE FURNISHED TO THE OWNER BEFORE COMMENCING WORK.
- SUBMIT THREE (3) SETS OF SHOP DRAWINGS IDENTIFIED WITH PROJECT NAME TO THE BUILDING OWNER, OWNER AND OWNERS CONSTRUCTION REPRESENTATIVE FOR HIS FILE.
- SCOPE OF WORK**

FURNISH ALL REQUIRED LABOR, MATERIALS, EQUIPMENT AND CONTRACTORS FOR A COMPLETE, SAFE INSTALLATION OF SPRINKLER WORK IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED.
- GENERAL ITEMS**
  - IF VALVES ARE NOW UTILIZED IN SYSTEM BUT NOT ALLOWED BY LAW, THEY ARE TO BE REMOVED AS REQUIRED.
  - SPRINKLER SUBCONTRACTOR SHOULD VERIFY WITH LANDLORD ANY SPECIAL REQUIREMENTS, HOOKUPS, ALARM SYSTEMS IN PIPING, ETC., AND INCLUDE COST IN BID - ITEMIZE AND SPECIFY INCLUSIONS IN BID.
  - DRAIN DOWNS AS PER GENERAL CONTRACTOR'S REQUIREMENTS. PIPING SHALL NOT BE SUPPORTED FROM DUCTWORK, ELECTRICAL, MECHANICAL, PLUMBING, OR OTHER SPRINKLER PIPING. ONLY HANG FROM TOP FLANGES OF BEAMS AND TOP CHORDS AT PANEL POINTS OF JOISTS AND TRUSSES.

**SPRINKLER NOTES**

- SPRINKLER HEAD LOCATIONS INDICATE ALIGNMENTS AND GENERAL QUANTITY. REFER TO SPRINKLER DRAWINGS FOR EXACT LOCATIONS AND SPACING.
- IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO SUBMIT PLANS FOR MODIFICATION OF THE FIRE SPRINKLER SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW TENANT SPACE. G.C. MUST USE LANDLORD'S SPRINKLER CONTRACTOR FOR ALTERATIONS AS REQUIRED. SUBMIT SHOP DRAWINGS TO THE LANDLORD AND ARCHITECT FOR REVIEW PRIOR TO PERMITTING & INSTALLATION.
 

THE SPRINKLER SUBCONTRACTOR IS REQUIRED TO VISIT THE SITE DURING BIDDING AND VERIFY LOCATION OF WHERE SPRINKLER PIPING/EQUIPMENT IS INDICATED TO BE PLACED, THEIR ROUTE(S) AND POSSIBLE INTERSECTION(S) WITH OTHER EQUIPMENT/WORK/STRUCTURE (I.E. STEEL BEAMS, ETC.) TO BE INSTALLED AND/OR "EXISTING TO REMAIN". THIS SUBCONTRACTOR IS TO VERIFY HEIGHTS TO BE INSTALLED TO MAINTAIN DESIGNED CEILING HEIGHTS AND HEAD ROOM. ANY DISCREPANCIES BETWEEN DESIGNED AND ACTUAL TO BE TOLD TO THE GENERAL CONTRACTOR AND INDICATED ON THE BID FORM.
- STERILIZATION OF SPRINKLER SYSTEM : IF REQUIRED BY CODE OR LANDLORD'S CRITERIA, BEFORE SPRINKLER SYSTEM IS PLACED INTO SERVICE, ALL LINES SHALL BE CHLORINATED TO THE SATISFACTION OF REPRESENTATION (AS APPLICABLE) IN ACCORDANCE WITH N.F.P.A. STANDARDS.
- NOTCHING AND BORING OF STRUCTURAL STEEL MEMBERS IS NOT PERMITTED, WHEN HANGING FROM STRUCTURAL STEEL ONLY HANG FROM TOP FLANGE OF BEAMS AND TOP CHORDS ONLY AT PANEL POINTS OF JOISTS / TRUSSES.
- SPRINKLER CONTRACTOR TO FILE FOR PERMITS AND SUBMIT PLANS TO BUILDING DEPARTMENT FOR APPROVAL AND SIGN-OFF. ALL BUILDING DEPARTMENT WORK FOR THIS CONTRACTORS SCOPE, TO BE FILED BY THIS CONTRACTOR.
- BUILDING LANDLORD'S CRITERIA**
  - THE SPRINKLER CONTRACTOR IS TO FAMILIARIZE HIMSELF WITH BUILDING LANDLORD'S CRITERIA FOR THIS LOCATION (IF APPLICABLE) AND INCLUDE ANY WORK REQUIRED OF THIS CRITERIA, WHICH IS NOT SPECIFICALLY NOTED IN THESE DRAWINGS AND SPECIFICATIONS.
  - THE SPRINKLERS MUST BE A FULL-COVERAGE SYSTEM WHICH COMPLIES WITH ALL THE REQUIREMENTS OF N.F.P.A.-13, 2022.
  - SPECIAL ATTENTION MUST BE PAID TO SPRINKLER OBSTRUCTIONS INCLUDING STOCK FIXTURES AND VALANCES.
  - THE 200 PSI, TWO-HOUR HYDROSTATIC TEST OF THE SYSTEM IS REQUIRED TO BE WITNESSED BY A REPRESENTATIVE OF THE BUREAU OF FIRE PREVENTION.
  - A COMPLETED, CERTIFIED COPY OF THE "CONTRACTORS MATERIAL AND TEST CERTIFICATE" IS REQUIRED TO BE TURNED INTO THE BUREAU OF FIRE PREVENTION.

**SPRINKLER LEGENDS AND ABBREVIATIONS**

(N)	NEW CONCEALED PENDENT SPRINKLER HEAD
(E)	EXISTING UPRIGHT SPRINKLER HEAD TO REMAIN
(R)	EXISTING TO BE RELOCATED
(E)	EXISTING TO REMAIN
(D)	EXISTING TO BE DEMOLISHED

**SPRINKLER HEAD COUNT**

NEW CONCEALED SPRINKLER	20
EXISTING UPRIGHT SPRINKLER	4
DEMOLISHED UPRIGHT SPRINKLER	2
RELOCATED UPRIGHT SPRINKLER	3
EXISTING CONCEALED SPRINKLER	34
RELOCATED CONCEALED SPRINKLER	4
DEMOLISHED CONCEALED SPRINKLER	2

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PROFESSIONAL SEAL:

**CONTRACTOR'S NOTES:**

WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS. THE CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE CONTRACT TO THE TENANT'S REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. CHANGE ORDERS NEED TO BE APPROVED BY ARMANI EXCHANGE CONSTRUCTION MANAGER FOR ISSUES ARISING FROM THE FIELD CONDITIONS OR CONFLICTS BETWEEN THE PLANS AND THE EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.

DATE	ISSUE
02/25/25	CD SET - CLIENT/LL REVIEW
03/24/25	PERMIT SET

DATE	REVISION
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LOCATION:

**PROJECT INFORMATION:**  
DATE: 01/15/2025  
PROJECT NUMBER: 12402-25  
AREA: 4,440 SQ. FT.  
DRAWN BY: NYE REVIEWED BY: NYE

TITLE:  
**FIRE SPRINKLER PLAN & NOTES**

SHEET NUMBER:

**SP1.0**