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ELECTRICAL SPECIFICATIONS

26 00 01 GENERAL STANDARDS

A. GENERAL REQUIREMENTS

- AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, VISIT THE SITE TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER IN WRITING OF ANY DISCREPANCIES NOTED BETWEEN THE EXISTING CONDITIONS AND DRAWINGS AND SPECIFICATIONS.
- VERIFY ALL MEASUREMENTS AT THE SITE, AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
- THE WORK SHALL BE CAREFULLY LAID OUT IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES, WHERE SUCH WORK IS NECESSARY, HOWEVER, THE WORK SHALL BE PATCHED AND/OR REPAIRED IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED FOR THE WORK.
- CUTTING OF BEAMS, FLOORS OR WALLS FOR PIPING OR CONDUIT SHALL BE DONE AS APPROVED BY THE OWNER IN A CAREFUL MANNER, WITH CORE DRILLS, SO AS NOT TO SERIOUSLY IMPAIR THE APPEARANCE OR STRENGTH OF THE STRUCTURE.
- PROVIDE ALL DRILLING AND PATCHING FOR EXPANSION BOLTS, HANGERS AND OTHER SUPPORTS FOR PROPER AND SAFE INSTALLATION OF WORK.
- WORK SHALL BE FIRST-CLASS IN EVERY RESPECT AND SHALL BE NEATLY PERFORMED IN A PRACTICAL AND WORKMANLIKE MANNER BY SUFFICIENT ELECTRICIANS SKILLED IN THE WORK THEY ARE TO DO USING THE BEST PRACTICES OF THEIR TRADE, AND UNDER CONTINUOUS, COMPETENT SUPERVISION, THE WORK SHALL BE ORGANIZED IN ADVANCE OF OPERATION AND CARRIED OUT EFFICIENTLY WITHOUT DELAYS WHICH WOULD IMPEDE PROGRESS OR THE QUALITY OF THE WORK OF OTHER TRADES AND THE WORK AS A WHOLE.
- MATERIALS AND EQUIPMENT PROVIDED SHALL BE NEW AND APPROVED FOR THE APPLICATION AND SHALL CONFORM TO THE SPECIFIED CODES AND STANDARDS. DEFECTIVE OR DAMAGED MATERIALS SHALL BE REPLACED OR REPAIRED IN A MANNER APPROVED BY THE OWNER.
- EQUIPMENT SHALL BEAR THE UL LABEL AND SHALL MEET OR EXCEED NEMA STANDARDS.
- INCLUDE IN BID THE COST OF ALL REQUIRED PERMITS, FEES, INSPECTIONS, TESTS AND CERTIFICATES OF APPROVAL.

B. CODES, REGULATIONS AND STANDARDS

- WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES:
 - FEDERAL, STATE AND LOCAL CODES HAVING JURISDICTION.
 - NATIONAL FIRE PROTECTION ASSOCIATION.
 - NATIONAL ELECTRICAL CODE AND ALL AMENDMENTS/ADDENDUM AS ISSUED BY THE AUTHORITY HAVING JURISDICTION.
 - ENERGY CONSERVATION CODE AS ADOPTED BY AUTHORITY HAVING JURISDICTION AND ALL ASSOCIATED AMENDMENTS/ADDENDUMS.

C. SUBMITTALS

- SHOP DRAWINGS
 - SHOP DRAWINGS SUBMITTALS SHALL CONSIST OF ONE REPRODUCIBLE AND THREE PRINTS, OR SIX PHOTOCOPIES.
 - SUBMIT SHOP DRAWINGS OF THE FOLLOWING:
 - PANELBOARDS
 - LIGHTING FIXTURES
 - WIRING DEVICES
 - IDENTIFICATION AND TAGGING
- AS-BUILT DRAWINGS
 - UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER IN AUTOCAD 2020 FORMAT OR LATEST VERSION, WHICHEVER IS MORE RECENT, "AS-BUILT" DRAWINGS ON CD-ROM MEDIA. DRAWINGS SHALL INCLUDE ALL FIELD CHANGES AND DIMENSIONS TO ACCURATELY LOCATE ALL OUTLETS, DEVICES, EQUIPMENT AND THE LIKE.
- SERVICE MANUALS
 - UPON COMPLETION OF THE WORK, FULLY INSTRUCT THE OWNER AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
 - PROVIDE THREE COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

D. SPECIAL REQUIREMENTS

- MAINTENANCE OF EXISTING FACILITIES AND CONDUCT OF THE WORK.
 - THE BUILDING WILL BE OCCUPIED AND IN OPERATION DURING THE PROGRESS OF THE WORK. WHEN NECESSARY TO TEMPORARILY HALT BUILDING EGRESS OR FLOW OF PERSONNEL TRAFFIC, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON. IT IS REQUIRED THAT THE WORK INDICATED AND/OR SPECIFIED BE CARRIED OUT WITH A MINIMUM OF INTERFERENCE TO THE ESTABLISHED ROUTINE OF THE BUILDING.
 - NO WORK SHALL BE LEFT INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. AT NO TIME SHALL THE WORK INTERFERE WITH OR CUT OFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
 - PROVIDE, ERECT, MAINTAIN AND BE RESPONSIBLE FOR THE SAFE AND LEGAL USE OF ALL SCAFFOLDING OR ADDITIONAL BRACING AND SERVICES THAT MAY BE REQUIRED FOR THE DELIVERY OR ERECTION OF THE EQUIPMENT AND CONSTRUCTION MATERIALS PROVIDED OR INSTALLED. DETERMINE THE SPECIFIC ARRANGEMENTS FOR FURNISHING AND USE OF ALL SUCH SCAFFOLDING EQUIPMENT, AND REMOVE SUCH EQUIPMENT WHEN IT IS NO LONGER REQUIRED.
 - WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON.

E. CLEANING

- REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
- CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE DETAILED PROCEDURES SPECIFIED HEREIN, OR AS DIRECTED.

F. GUARANTEE

- FURNISH, IN WRITING, A COMPLETE GUARANTEE AGAINST DEFECTIVE MATERIALS AND IMPROPER WORKMANSHIP, SATISFACTORY TO OWNER, FOR ALL PARTS, COMPONENTS AND OPERATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE COMPLETE INSTALLATION BY THE OWNER.
- GUARANTEE SHALL INCLUDE COMPLETE MAINTENANCE OF THE SYSTEM, INCLUDING REPLACEMENT PARTS, ALL LABOR AND MATERIALS TO MAINTAIN THE SYSTEM IN PROPER OPERATING CONDITION FOR THE GUARANTEE PERIOD.

26 00 02 SCOPE OF WORK

A. WORK INCLUDED

- WORK UNDER THE ELECTRICAL CONTRACT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS TO THE OWNER.
 - PROCURE NECESSARY PERMITS AND APPROVALS AND PAYING REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK.
 - PROTECT, TEST, BALANCE, CLEAN, ADJUST AND GUARANTEE ALL OF THE WORK TO SAFELY, PROPERLY AND CONTINUOUSLY OPERATE.
 - SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
 - PROVIDE IDENTIFICATION LABELS, TAGS, CHARTS AND DIAGRAMS.
 - EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK.
 - PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED.
 - PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR ROOF, FLOOR AND WALL PENETRATIONS.
 - MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATIONS DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED.
 - TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
 - ELECTRICAL DEMOLITION.
 - PANELS AND FEEDERS AS INDICATED.
 - COMPLETE WIRING SYSTEMS FOR LIGHT AND POWER INSTALLATIONS, HVAC EQUIPMENT AND MISCELLANEOUS DEVICES, INCLUDING FEEDERS TO PANELS, AND BRANCH CIRCUIT WIRING.
 - CONTROL AND INDICATION WIRING AND CONNECTIONS EXTERNAL TO EQUIPMENT INCLUDING CONTROL DEVICES PROVIDED UNDER OTHER CONTRACTS OR SPECIFICATION DIVISIONS.
 - BRANCH CIRCUITS EXTENDING TO ALL LIGHTING OUTLETS, RECEPTACLES.
 - RECEPTACLES, LOCAL SWITCHES AND MISCELLANEOUS WIRING DEVICES AS INDICATED.
 - SMOKE DETECTORS AND MISCELLANEOUS SYSTEMS AS INDICATED.
 - LIGHTING FIXTURES AS SCHEDULED ON ARCHITECTURAL, COMPLETE WITH LAMPS, HANGERS, SUPPORTS AND ACCESSORIES.
 - GROUNDING OF ELECTRICAL SYSTEMS AND EQUIPMENT.
 - BALANCE ALL LOADS ON PANELBOARDS.
 - EMPTY CONDUIT FOR TELEPHONE AND DATA CABLES.

B. WORK NOT INCLUDED

- TELEPHONE INSTRUMENTS OR WIRING.
- DATA PROCESSING AND EQUIPMENT CABLES AND CABLING.

26 05 19 WIRES AND CABLES

- WIRE AND CABLE SHALL BE 600 VOLT, COPPER, WITH THHN/THWN-2 90 DEGREES C. INSULATION EXCEPT AS NOTED.
- WIRE FOR POWER AND LIGHTING SHALL BE NOT LESS THAN NO. 12 AWG. WIRE NO. 8 AND LARGER SHALL BE STRANDED.
- CONTROL WIRING SHALL BE NOT LESS THAN NO. 14 AWG, STRANDED OR SOLID AS REQUIRED BY THE APPLICATION, IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING SHALL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES SHALL BE PROVIDED WITH AN OVERALL FLAME-RETARDANT EXTRUDED JACKET.
- WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND SHALL NOT BE RE-PULLED.
- BRANCH CIRCUIT WIRING FOR SINGLE PHASE APPLICATIONS SHALL UTILIZE SEPARATE NEUTRALS FOR EACH PHASE CONDUCTOR. UNDER NO CIRCUMSTANCES SHALL ANY SWITCH OR CIRCUIT BREAKER BREAK A NEUTRAL CONDUCTOR.
- IN PANELS, PHASE LEGS SHALL BE ALTERNATELY BUSSED TO EACH CIRCUIT BREAKER IN A MANNER TO EFFECT BALANCING THE BRANCH CIRCUIT CONNECTIONS AS NEARLY AS POSSIBLE OVER EACH PHASE. LOADS ON EACH PANEL BUSS SHALL BE BALANCED TO WITHIN 10% OF EACH OTHER.
- HOMERUNS AND BRANCH CIRCUIT WIRING FOR 120 VOLT CIRCUITS SHALL BE AS FOLLOWS:

LENGTH, FT.	HOME RUN WIRE SIZE	CIRCUIT WIRE SIZE
0 TO 50	NO. 12	NO. 12
51 TO 100	NO. 10	NO. 12
101 TO 150	NO. 8	NO. 10
- PROVIDE A GREEN INSULATED GROUND CONDUCTOR WITH ALL FEEDERS AND BRANCH CIRCUITS.

26 05 23 CONTROLS

- ALL WIRING 120V OR GREATER EXTERNAL TO EQUIPMENT PROVIDED BY THE OWNER OR UNDER OTHER DIVISIONS OF THE WORK, INCLUDING WIRING AND CONNECTIONS FOR REMOTE CONTROLS, INTERLOCKING, TEMPERATURE CONTROLS, VARIOUS ALARM AND SUPERVISORY FUNCTIONS, AS WELL AS ALL POWER SUPPLY WIRING, SHALL BE PROVIDED UNDER THIS DIVISION OF THE WORK UNLESS NOTED OTHERWISE.
- REFER TO "E", "M" AND "ME" DRAWINGS WHERE APPLICABLE FOR REQUIRED CONTROL EQUIPMENT, WIRING AND CONNECTIONS PROVIDED UNDER THIS DIVISION.

26 05 33.13 RACEWAYS

- ALL WIRING SHALL BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
 - INTERIOR FEEDERS SHALL BE INSTALLED IN RIGID METALLIC CONDUIT, OR IMC.
 - EXTERIOR WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT.
 - ALL WORK INSTALLED IN UNFINISHED SPACES, ELECTRICAL CLOSETS, MECHANICAL ROOMS, PUMP ROOMS, AND THE LIKE SHALL BE RUN EXPOSED AND SHALL BE INSTALLED IN GR3 OR IMC, UNLESS INDICATED OTHERWISE.
 - MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH TRADE SIZE UNLESS OTHERWISE INDICATED.
 - FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
 - BRANCH CIRCUIT WIRING CONCEALED IN WALLS SHALL BE INSTALLED IN IMC OR EMT.
 - LIGHTING BRANCH CIRCUIT WORK CONCEALED WITHIN HUNG OR FURRED CEILINGS SHALL BE INSTALLED IN FLEXIBLE METALLIC CONDUIT (GREENFIELD) OR METAL CLAD CABLE (MC).
 - CONDUIT SHALL BE RUN CONCEALED IN HUNG OR FURRED CEILINGS, IN FINISHED AREAS, BAR-JOIST CONSTRUCTION, MASONRY, METAL AND DRYWALL PARTITIONS.
 - THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCE.
 - CONDUIT FITTINGS, CONNECTORS, COUPLING, ELLS, NIPPLES AND THE LIKE SHALL BE OF MATERIAL AND CONSTRUCTION SUITABLE FOR THE CONDUIT SYSTEM USED.
 - SETSCREW FITTINGS SHALL NOT BE USED.
 - FITTINGS FOR GALVANIZED RIGID STEEL, IMC AND RIGID ALUMINUM CONDUITS SHALL BE OF THE THREADED TYPE.
 - FITTINGS FOR EMT AND FLEXIBLE CONDUIT SYSTEMS SHALL BE COMPRESSION TYPE, RATED RAIN/TIGHT/CONCRETE/TIGHT, UNLESS NOTED OTHERWISE.
 - WALL MOUNTED TELEPHONE OUTLETS SHALL CONSIST OF 3/4 INCH EMT STUBBED IN THE ACCESSIBLE HUNG CEILING AND TERMINATING IN A STANDARD THREE INCH BY TWO INCH GALVANIZED STEEL OUTLET BOX.

26 05 33.16 OUTLET BOXES

- GALVANIZED PRESSED STEEL OUTLET BOXES OF PROPER SIZE AND TYPE AS REQUIRED BY THE BUILDING CONDITIONS SHALL BE PROVIDED FOR ALL OUTLETS FOR LIGHTING, SWITCHES, RECEPTACLES, SIGNALS, AND THE LIKE.

26 05 03 IDENTIFICATION AND TAGGING

- PANELS, CABINETS, ETC. SHALL BE PROPERLY IDENTIFIED WITH PERMANENT NAMEPLATES SECURELY FASTENED TO THE FRONT OF EQUIPMENT. "STICK-ON" TYPE LETTERS OR PLATES SHALL NOT BE USED.
 - IDENTIFY EQUIPMENT AND KEY EQUIPMENT COMPONENTS WITH NAMEPLATES OF BLACK LAMINATED PHENOLIC MATERIAL.
 - COORDINATE NAMEPLATES WITH ACTUAL EQUIPMENT INSTALLED.
 - SUBMIT CUT SHEET OF NAMEPLATES FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
 - MINIMUM SIZE NAMEPLATES SHALL BE THREE INCHES LONG WITH 1/4 INCH LETTERING.
- CONDUCTORS IN TROUGHS, PULLBOXES, GUTTERS, ETC. SHALL BE IDENTIFIED BY MEANS OF TAGS INDICATING BOTH TERMINATING POINTS.
- CIRCUIT BREAKERS IN EXISTING PANELBOARDS WHICH ARE TO BE USED UNDER THIS CONTRACT SHALL HAVE NEW LOADS IDENTIFIED IN UPDATED PANEL DIRECTORIES.
- EACH WIRING DEVICE FACE PLATE TO HAVE PANEL AND CIRCUIT DESIGNATION.

26 05 73 OVERCURRENT PROTECTION DEVICE COORDINATION

- PROVIDE A COMPLETE SYSTEM ANALYSIS FOR THIS PROJECT SHOWING DEVICE COORDINATION CURVES AND CHARTS SHOWING THAT ARE ALL SELECTIVELY COORDINATED. SET ALL CIRCUIT BREAKERS IN ACCORDANCE WITH THE STUDY.
- PROVIDE SHORT CIRCUIT AND COORDINATION STUDY FROM NORMAL AND ALTERNATE POWER SOURCES TO CONFIRM EQUIPMENT IS PROTECTED.
- FAULT CURRENT STUDY: CALCULATE THE MAXIMUM AVAILABLE SHORT CIRCUIT CURRENT IN AMPERES RMS SYMMETRICAL AT CIRCUIT BREAKER POSITIONS OF THE ELECTRICAL POWER DISTRIBUTION SYSTEM. THE CALCULATION SHALL BE FOR A CURRENT IMMEDIATELY AFTER INITIATION AND FOR A THREE-PHASE BOLTED SHORT CIRCUIT.
- CALCULATE MOMENTARY AND INTERRUPTING DUTIES ON THE BASIS OF MAXIMUM AVAILABLE FAULT CURRENT.
- EQUIPMENT EVALUATION REPORT
 - FOR OVERCURRENT PROTECTIVE DEVICES, ENSURE THAT INTERRUPTING RATINGS ARE EQUAL TO OR HIGHER THAN CALCULATED 1/2-CYCLE SYMMETRICAL FAULT CURRENT.
 - FOR DEVICES AND EQUIPMENT RATED FOR ASYMMETRICAL FAULT CURRENT, APPLY MULTIPLICATION FACTORS LISTED IN THE STANDARDS TO 1/2-CYCLE SYMMETRICAL FAULT CURRENT.
 - VERIFY ADEQUACY OF PHASE CONDUCTORS AT MAXIMUM THREE-PHASE BOLTED FAULT CURRENTS; VERIFY ADEQUACY OF EQUIPMENT GROUNDING CONDUCTORS AND GROUNDING ELECTRODE CONDUCTORS AT MAXIMUM GROUND-FAULT CURRENTS. ENSURE THAT SHORT CIRCUIT WITHSTAND RATINGS ARE EQUAL TO OR HIGHER THAN CALCULATED 1/2-CYCLE SYMMETRICAL FAULT CURRENT.

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CLIENT:
SUNY PURCHASE COLLEGE

PROJECT TITLE:
SUNY PURCHASE APARTMENT REPAIR ALUMNI VILLAGE INTERIOR RENOVATIONS OF THE COMMONS APARTMENTS 10.1 (ADA COMPLIANT) & 10.3

DRAWING TITLE:			
ELEC. SPECIFICATIONS SHEET 1 OF 2			
DRAWN BY:	ET	SCALE:	AS NOTED
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SHEET:		6	OF 7

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- F. COORDINATION STUDY: PERFORM COORDINATION STUDY USING APPROVED COMPUTER SOFTWARE PROGRAM. PREPARE A WRITTEN REPORT USING RESULTS OF FAULT-CURRENT STUDY. COMPLY WITH IEEE 399.
- CALCULATE THE MAXIMUM AND MINIMUM ½-CYCLE SHORT CIRCUIT CURRENTS.
 - CALCULATE THE MAXIMUM AND MINIMUM INTERRUPTING DUTY (5 CYCLES TO 2 SECONDS) SHORT CIRCUIT CURRENTS.
 - CALCULATE THE MAXIMUM AND MINIMUM GROUND FAULT CURRENTS.
- G. COORDINATION STUDY REPORT: PREPARE A WRITTEN REPORT INDICATING THE FOLLOWING RESULTS OF COORDINATION STUDY:
- TABULAR FORMAT OF SETTINGS SELECTED FOR OVERCURRENT PROTECTIVE DEVICES:
 - DEVICE TAG.
 - CIRCUIT BREAKER SENSOR RATING; AND LONG-TIME, SHORT-TIME, AND INSTANTANEOUS SETTINGS.
 - FUSE-CURRENT RATING AND TYPE.
 - COORDINATION CURVES: PREPARE TO DETERMINE SETTINGS OF OVERCURRENT PROTECTIVE DEVICES TO ACHIEVE SELECTIVE COORDINATION. GRAPHICALLY ILLUSTRATE THAT ADEQUATE TIME SEPARATION EXISTS BETWEEN DEVICES INSTALLED IN SERIES. PREPARE SEPARATE SETS OF CURVES FOR THE SWITCHING SCHEMES AND FOR EMERGENCY PERIODS WHERE THE POWER SOURCE IS LOCAL GENERATION. SHOW THE FOLLOWING INFORMATION:
 - DEVICE TAG.
 - VOLTAGE AND CURRENT RATIO FOR CURVES.
 - THREE-PHASE AND SINGLE-PHASE DAMAGE POINTS FOR EACH TRANSFORMER.
 - NO DAMAGE, MELTING AND CLEARING CURVES FOR FUSES.
 - CABLE DAMAGE CURVES.
 - TRANSFORMER INRUSH POINTS.
 - MAXIMUM FAULT-CURRENT CUTOFF POINT.
- H. COMPLETED DATA SHEETS FOR SETTING OF OVERCURRENT PROTECTIVE DEVICES.
- I. ANALYZE THE SHORT CIRCUIT CALCULATIONS, PROTECTIVE DEVICE COORDINATION, AND HIGHLIGHT ANY EQUIPMENT THAT IS DETERMINED TO BE UNDERRATED AS SPECIFIED. PROPOSE APPROACHES TO EFFECTIVELY PROTECT THE UNDERRATED EQUIPMENT. PROVIDE MINOR MODIFICATIONS TO CONFORM TO THE STUDY (EXAMPLES OF MINOR MODIFICATIONS ARE TRIP SIZES WITHIN THE SAME FRAME). AFTER DEVELOPING THE COORDINATION CURVES, HIGHLIGHT AREAS LACKING COORDINATION. PRESENT A TECHNICAL EVALUATION WITH A DISCUSSION OF THE LOGICAL COMPROMISES FOR BEST COORDINATION. PROPOSED MAJOR CORRECTIVE MODIFICATIONS WILL BE TAKEN UNDER ADVISEMENT BY THE ENGINEER, AND THE CONTRACTOR WILL BE GIVEN FURTHER INSTRUCTIONS.

26 05 74 ARC FLASH ANALYSIS

- A. PERFORM AN ARCH FLASH ANALYSIS STUDY IN CONJUNCTION WITH THE PREVIOUS SPECIFIED SHORT CIRCUIT AND PROTECTIVE DEVICE COORDINATION STUDY. THIS ARC FLASH ANALYSIS STUDY TO BE PERFORMED IN ACCORDANCE WITH IEEE STD. 1584A.
- B. THE STUDY SHALL BE CALCULATED BY MEANS OF A DIGITAL COMPUTER, WITH THE LATEST VERSION OF ARC FLASH ANALYSIS SOFTWARE. PERTINENT DATA AND THE RATIONALE EMPLOYED IN DEVELOPING THE CALCULATIONS SHALL BE INCORPORATED IN THE INTRODUCTORY REMARKS OF THE STUDY.
- C. DETERMINE THE FOLLOWING FOR EACH BUS ANALYZED:
- FLASH HAZARD PROTECTION BOUNDARY.
 - INCIDENT ENERGY LEVEL.
 - REQUIRED PERSONAL PROTECTIVE EQUIPMENT CATEGORY.
 - TYPE OF FIRE RATED CLOTHING.
 - LIMITED APPROACH BOUNDARY.
 - RESTRICTED APPROACH BOUNDARY.
 - PROHIBITED APPROACH BOUNDARY.
- D. PRODUCE AN ARC FLASH WARNING LABEL FOR EACH PIECE OF ELECTRICAL EQUIPMENT WITH A SPECIFIC EQUIPMENT ID AND THE PREVIOUS ITEMS 1 THRU 7 LISTED. ALSO INCLUDE THE SYSTEM OPERATING VOLTAGE AND DATE OF ISSUE. LABELS SHALL BE PRINTED IN COLOR ON ADHESIVE-BACKED NYLON LABELS. INSTALL ARC FLASH WARNING LABELS ON EQUIPMENT.
- E. PRESENT THE DATA DETERMINED BY THE ARC FLASH ANALYSIS STUDY IN A TABULAR FORMAT SUMMARY SHEET. INCLUDE THE FOLLOWING FOR EACH BUS ANALYZED:
- FLASH BUS NAME.
 - PROTECTIVE DEVICE NAME.
 - BUS OPERATING VOLTAGE.
 - BUS BOLTED FAULT CURRENT.
 - PROTECTIVE DEVICE BOLTED FAULT CURRENT.
 - PROTECTIVE DEVICE ARCING FAULT CURRENT.
 - TRIP/DELAY TIME (SEC).
 - BREAKER OPENING TIME (SEC).
 - GROUND.
 - EQUIPMENT TYPE.
 - GAP (MM).
 - ARC FLASH BOUNDARY (IN).
 - WORKING DISTANCE (IN).
 - INCIDENT ENERGY (CAL/CM²).
 - REQUIRED PROTECTIVE FR CLOTHING CATEGORY.

- F. TABULATION OF EQUIPMENT RATINGS VERSUS CALCULATED ARC FLASH VALUES.
- G. ANALYZE THE ARC FLASH CALCULATIONS AND HIGHLIGHT ANY EQUIPMENT THAT IS DETERMINE TO CAUSE ABNORMALLY HIGH INCIDENT ENERGY LEVELS. PROPOSE APPROACHES TO REDUCE THE ENERGY LEVELS. PROVIDE MINOR MODIFICATIONS TO CONFORM TO THE STUDY. PRESENT A TECHNICAL EVALUATION WITH A DISCUSSION OF THE LOGICAL COMPROMISES FOR BEST COORDINATION. PROPOSED MAJOR CORRECTIVE MODIFICATIONS WILL BE TAKEN UNDER ADVISEMENT BY THE ENGINEER, AND THE CONTRACTOR WILL BE GIVEN FURTHER INSTRUCTIONS.

26 08 00 COMMISSIONING OF ELECTRICAL SYSTEMS

- A. TESTS, INSPECTIONS AND APPROVAL
- INSPECT ALL EQUIPMENT, COMPONENTS AND MATERIALS INSTALLED OR CONNECTED TO ENSURE:
 - PROPER CONDITIONS.
 - COMPONENTS ARE IN PLACE ALIGNED AND SECURE.
 - PROPER INTERNAL CONNECTIONS.
 - BEFORE ENERGIZING ANY FACTORY FABRICATED EQUIPMENT, INSPECT EACH UNIT IN DETAIL. BOLTS AND CONNECTIONS SHALL BE TIGHT (TORQUE-TIGHTEN WHERE REQUIRED), COMPONENTS SHALL BE ALIGNED, AND THE EQUIPMENT SHALL BE IN SAFE, OPERATIONAL CONDITION.
 - THE COMPLETE ELECTRICAL SYSTEM SHALL BE FREE OF GROUNDS AND SHORT CIRCUITS AND SHALL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

26 24 16 PANELBOARDS

- A. PANELS SHALL CONSIST OF AN ASSEMBLY OF DOOR IN DOOR CONSTRUCTION WITH CIRCUIT BREAKERS INSTALLED IN CODE GAUGE GALVANIZED SHEET STEEL CABINETS, SURFACE OR FLUSH MOUNTED AS INDICATED ON THE DRAWINGS.
- B. THE PANEL SECTIONS SHALL BE MOUNTED AWAY FROM THE BACK OF THE CABINET TRIM AND FRAMES.
- THE GUTTER SPACE ON SIDES, TOP AND BOTTOM SHALL BE OF SUFFICIENT SIZE TO PREVENT OVERCROWDING OF WIRES AND CABLES, AND OVERHEATING OF THE CIRCUIT BREAKERS.
 - CABINETS SHALL BE COMPLETE WITH HINGED DOORS WITH CYLINDER LOCK, DIRECTORY FRAME AND NEATLY TYPED DIRECTORY CHARTS.
 - PROVIDE AN ANGLE PIECE ON THE INSIDE OF THE BOTTOM OF EACH TRIM FOR EASE OF INSTALLATION.
- C. THE BRANCH CIRCUIT BREAKERS, IN GENERAL, SHALL BE MOLDED CASE, BOLT-ON TYPE, THERMAL MAGNETIC TRIP, SINGLE, TWO OR THREE POLE AS INDICATED ON THE DRAWINGS.
- MULTIPLE POLE BREAKERS SHALL BE SINGLE HANDLE, COMMON TRIP.
 - WHERE BREAKERS OF LARGER CAPACITY ARE REQUIRED, THEY SHALL HAVE CIRCUIT CHARACTERISTICS AS INDICATED.
 - BREAKERS SHALL BE 10,000 A.I.R. FOR 120/208 VOLT SERVICE AND 14,000 A.I.R. FOR 277/480 VOLT SERVICE, UNLESS OTHERWISE INDICATED.
 - MAIN BUSWORK SHALL BE HIGH CONDUCTIVITY COPPER, AND SHALL, AS A MINIMUM, BE DESIGNED TO CARRY THE FULL RATING OF THE FEEDER BREAKER OR SWITCH SUPPLYING THE PANEL WITHOUT PERCEPTIBLE HEATING.
 - BRANCH CIRCUIT BREAKERS SHALL BE ARRANGED SO THAT EACH BREAKER IS READILY REMOVABLE FROM THE PANEL WITHOUT DISTURBING ADJACENT BREAKERS.
 - PHASE LEGS SHALL BE ALTERNATELY BUSSED TO EACH CIRCUIT BREAKER IN A MANNER TO EFFECT BALANCING THE BRANCH CIRCUIT CONNECTIONS AS NEARLY AS POSSIBLE OVER EACH PHASE.
- D. PANELS BY SQUARE D, SIEMENS, ABB AND EATON MEETING THESE SPECIFICATIONS SHALL BE ACCEPTABLE.

26 27 26 WIRING DEVICES

- A. SWITCHES
- LOCAL SWITCHES SHALL BE TOGGLE TYPE, 120-277 VOLT, AC RATED 20 AMPERES, QUIET-TYPE WITH SILENT OPERATING MECHANISM, TOTALLY ENCLOSED IN A MOLDED COMPOSITION BASE.
 - SWITCHES SHALL BE HUBBELL #HBL1221, HBL1223, SINGLE POLE OR THREE WAY AS INDICATED.
- B. RECEPTACLES
- RECEPTACLES SHALL BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION TO CONDUIT SYSTEM. INSTALL VERTICALLY MOUNTED RECEPTACLES WITH GROUNDING POLE ON TOP.
 - DUPLEX CONVENIENCE RECEPTACLES SHALL BE HUBBELL #HBL5262 RATED 15 AMPERES, 125 VOLTS, TOTALLY ENCLOSED IN MOLDED COMPOSITION BASE, THIRD-LEG GROUNDED TO CONDUIT SYSTEM.
 - SINGLE CONVENIENCE RECEPTACLES, UNLESS OTHERWISE INDICATED, SHALL BE HUBBELL #HBL5261 RATED 15 AMPERES, 125 VOLTS, TOTALLY ENCLOSED IN A MOLDED COMPOSITION BASE.
- C. DEVICE PLATES
- IN GENERAL, PLATES FOR ALL WIRING DEVICES, EXCEPT AS SPECIFIED OTHERWISE, SHALL BE .040 INCH SATIN FINISHED STAINLESS STEEL. A COMMON PLATE SHALL COVER ALL DEVICES WHICH ARE INDICATED AT THE SAME LOCATION. WHERE STANDARD SIZE PLATE DOES NOT COVER OPENING IN PLASTER, ETC., PROVIDE JUMBO TYPE PLATE OF SAME FINISH.
 - ON THE INSIDE OF EACH DEVICE PLATE, WRITE THE PANELBOARD DESIGNATION AND CIRCUIT NUMBER OF THE CIRCUIT SERVING THE DEVICE.
 - DEVICE PLATES SHALL BE SECURED WITH STAINLESS STEEL, TAMPERPROOF SCREWS. FURNISH AT LEAST TEN COMPATIBLE SCREWDRIVERS TO THE OWNER.

26 51 13 LIGHTING

- A. PROVIDE ON EACH FIXTURE OUTLET INDICATED ON THE DRAWINGS THE TYPE OF FIXTURE INDICATED AND AS SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE.
- B. INCLUDE THE COST OF PURCHASING ALL FIXTURES SPECIFIED ON THE ARCHITECTURAL LIGHTING FIXTURE SCHEDULE, INCLUDING PLASTER FRAMES, MOUNTING BRACKETS AND THE LIKE, AS WELL AS THE COST INVOLVED IN RECEIVING, CHECKING, CLEANING, SAFEGUARDING, WIRING, DISPOSAL OF CRATES FROM THE SITE, ETC., ASSEMBLING AND INSTALLATION OF FIXTURES SPECIFIED.

LIZARDOS

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1	ISSUED FOR BID	03/17-2023
NO.	REVISION	DATE

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SEAL:

CLIENT:

SUNY PURCHASE COLLEGE

PROJECT TITLE:

SUNY PURCHASE APARTMENT
REPAIR ALUMNI VILLAGE
INTERIOR RENOVATIONS OF THE
COMMONS APARTMENTS
10.1 (ADA COMPLIANT) & 10.3

DRAWING TITLE:

ELEC. SPECIFICATIONS
SHEET 2 OF 2

DRAWN BY:	ET	SCALE:	AS NOTED
DESIGNED BY:	GL	DATE:	11-29-22
CHECKED BY:	ABD	PROJECT NO:	10652

PLOT DATE/TIME: 3/17/2023 3:54:56 PM

DRAWING NO:
E-402.00

SHEET: 7 OF 7

GENERAL NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NATIONAL SAFETY, NFPA 72, NY STATE BUILDING CODE AND FIRE DEPARTMENT AND ALL OTHER GOVERNING AUTHORITIES HAVING JURISDICTION.
- SHALL INSTALL ALL FIRE ALARM EQUIPMENT/DEVICES WITH RELATED WORK AS SHOWN ON DRAWINGS.
- ALL MATERIALS REQUIRED SHALL BE NEW AND SHALL BEAR LABELING OF THE UNDERWRITERS LABORATORIES, INC. AND BSA APPROVED.
- MINIMUM CONDUIT SIZE SHALL BE 3/4".
- VISIT THE SITE PRIOR TO BIDDING, TO ASSURE HIMSELF THAT THE PREVAILING CONDITIONS AT THE SITE HAVE BEEN CAREFULLY CONSIDERED, NO ALLOWANCES FOR EXTRA WORK WILL BE GIVEN UNLESS THE PREVAILING CONDITION COULD NOT BE DETERMINED BY REASONABLE MEANS OR METHODS.
- BE RESPONSIBLE TO KEEP ALL WORK AREAS CLEAN, PROTECT ALL FLOORING WITH PLASTIC SHEETS AND VACUUM DAILY. DEBRIS SHALL NOT BE LEFT ON SITE AND SHALL BE REMOVED BY THE CONTRACTOR, ANY DAMAGES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- NO HAZARDOUS CONDITIONS SHALL BE LEFT AND ALL EXPOSED, LIVE WIRING SHALL BE FULLY PROTECTED TO ASSURE A SAFE, PROPERLY OPERATING INSTALLATION, SAFETY BARRICADES AND SIGNS SHALL BE PROVIDED AT THE OWNER'S DIRECTION.
- ALL EQUIPMENT SHALL BE SHIPPED TO THE JOB SITE IN FACTORY PACKAGING AND SEALED TO ASSURE INTEGRITY OF ASSEMBLY AND MANUFACTURE, NO OPENED OR DAMAGED EQUIPMENT WILL BE ACCEPTED OR INSTALLED.
- BOXES SHALL BE PRESSED STEEL, 4" SQUARE AND 1-1/2" OR 2-1/8" DEEP MINIMUM, AND PAINTED FIRE DEPARTMENT RED.
- CUTTING, PATCHING AND PRIMING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (PAINTING BY OTHERS). WRITTEN APPROVAL MUST BE OBTAINED FROM BUILDING'S ENGINEER BY CONTRACTOR PRIOR TO PENETRATING, DRILLING OR CHOPPING EXISTING WALLS, CEILINGS AND FLOORS. ALL CONDUITS SHALL BE PAINTED TO MATCH EXISTING WALLS AND CEILINGS.
- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYOUT WORK AND CHECK DRAWINGS TO VERIFY SPACE CONDITIONS. MAINTAIN HEAD ROOM AND SPACE CONDITIONS.
- SECURE ALL SUPPORTS TO BUILDING STRUCTURE AS SPECIFIED UNDER RACEWAYS, SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FEET APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
- PASS RACEWAYS OVER WATER, STEAM OR OTHER PIPING WHEN PULL BOXES ARE NOT REQUIRED. NO RACEWAY WITHIN 3 INCHES OF STEAM OR HOT WATER PIPES OR APPLIANCES, EXCEPT CROSSING WHERE RACEWAY SHALL BE AT LEAST 1 INCH FROM PIPE COVER.
- CUT CONDUIT ENDS SQUARE, REAM SMOOTH. DRAW UP TIGHT WITH RACEWAYS COUPLINGS.
- LEAVE WIRE SUFFICIENTLY LONG TO PERMIT MAKING FINAL CONNECTIONS. IN RACEWAYS OVER 10 FEET IN WHICH WIRING IS NOT INSTALLED, FURNISH FISH WIRE.
- DO NOT PULL THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32°F (0°C). PROVIDE CABLE SUPPORTS FOR WIRE IN RISER CONDUITS AS REQUIRED BY CODE.
- SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. ERECT WALL AND DEVICES IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS.
- LOCATIONS INDICATED FOR FIRE ALARM DEVICES ARE SUBJECT TO MODIFICATIONS. VERIFY FINAL LOCATION IN FIELD PRIOR TO BOXES INSTALLATION.
- WIRE COLOR CODING: AS PER CODE. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING & REQUEST PERMISSION FOR OVERLAP COLOR TAPING CONDUCTORS (MINIMUM LENGTH 6" IN ACCESSIBLE LOCATIONS). COLOR OR CODING, ONCE SELECTED MUST BE USED CONSISTENTLY FOR THE ENTIRE PROJECT.
- HEIGHT OF FIRE ALARM DEVICES FROM FINISHED FLOOR TO CENTERLINE OF DEVICE. HORNS/SPEAKER/STROBE LIGHTS 80" A.F.F. OR 6" BELOW HUNG CEILING (WHICHEVER IS LOWER)
- FIREPROOF & SEAL ALL CONDUIT PENETRATIONS THRU WALLS, FLOOR & CEILING SLABS.

WIRE F.A. DEVICES AS FOLLOWS:

- | | |
|---|-------------------|
| A. SPEAKERS | 13 PER ZONE |
| B. BELLS | 13 PER ZONE |
| C. STROBES | 13 PER ZONE |
| D. ADDRESSABLE DEVICES (INPUT AND OUTPUT) | 125 PER DATA LOOP |

PROVIDE END OF LINE RESISTORS AT THE LAST DEVICE OF EACH DATA LOOP AND ZONE.

- ALL FPLP WIRING EXPOSED, RUN IN MECHANICAL ROOMS, OUTDOORS, ETC., SHALL BE INSTALLED IN DEDICATED RIGID CONDUIT. IN MECHS AND OUTDOORS, WIRING ABOVE 8 FT. SHALL BE INSTALLED IN EMT. ALL APPLICABLE PORTIONS OF NFPA BUILDING AND ELECTRIC CODES, REQUIREMENTS SHALL BE IMPLICITLY FOLLOWED, PARTICULARLY WITH REGARD TO MATERIAL TYPE AND QUALITY, CIRCUITRY EXTENSIONS FROM AND CONNECTIONS TO JUNCTION BOXES, PANEL AND SIMILAR APPURTENANCES. FPLP WIRING INSTALLED INDOORS ABOVE HUNG CEILING MAY BE RUN EXPOSED AND INDEPENDENTLY SUPPORTED EVERY 5 FT. FROM THE CEILING SLAB. WIRING RUN IN EXPOSED CEILING SHALL BE IN EMT. ALL RISERS TO CENTRAL STATION SHALL BE IN EMT.

- ALL WIRING SHALL BE OF THE SIZE AND CONFIGURATION TYPE RECOMMENDED BY THE MANUFACTURER FOR EACH TYPE OF CIRCUIT IN THE SYSTEM AND MEET THE REQUIREMENTS BELOW LISTED IN A THROUGH G.

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|----|---|
| A. | COPPER CONDUCTORS ONLY. ALUMINUM CONDUCTORS OR COPPER CLAD, PLATED OR COATED ALUMINUM CONDUCTORS SHALL NOT BE ACCEPTABLE. |
| B. | COLOR CODED THROUGHOUT. |
| C. | IN CONFORMANCE WITH THE NFPA AND NATIONAL ELECTRICAL CODE STANDARDS. |
| D. | UL LISTED. |
| E. | A MINIMUM OF NO. 16 A.W.G., UNLESS OTHERWISE NOTED. |
| F. | THINWALL INSULATED WIRE CONDUCTOR SIZES OF 16 A.W.G. AND LARGER RUN IN EMT. |
| G. | FPLP CABLE TYPE SHALL MEET THE FOLLOWING REQUIREMENTS. |

- | | |
|----|--|
| 1. | A MINIMUM TEMPERATURE RATING OF 150°C. |
| 2. | A MINIMUM AVERAGE INSULATION THICKNESS OF 15 MILS. |
| 3. | A MINIMUM AVERAGE JACKET THICKNESS OF 25 MILS. |
| 4. | THE COLOR OF THE CABLE SHALL BE RED. |
| 5. | THE CABLE SHALL BE A TYPE FPLP (PLENUM TYPE). |
| 6. | THE CABLE SHALL BE VISIBLY MARKED EXTERNALLY THAT IT MEETS THE ABOVE REQUIREMENTS AND IS LISTED BY UL. |
| 7. | FPLP WIRING INSTALLED IN HUNG CEILING IS NOT REQUIRED TO BE INSTALLED IN EMT. |
| 8. | INSTALL IN EMT WHERE ALLOWED BY CODE WITH COMPRESSION FITTINGS. |

- ALL WIRES SHALL TEST FREE FROM GROUNDS AND CROSSES BETWEEN CONDUCTORS.

- CIRCUIT WIRING FROM THE FIRE ALARM CONTROL PANEL OR FROM DGP TO REMOTE DEVICES AND TO THE SYSTEM PERIPHERAL EQUIPMENT SHALL BE A MINIMUM OF AS FOLLOWS:

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|----|--|
| A. | EACH ADDRESSABLE DATA COMMUNICATIONS CIRCUIT: 1 PAIR TWISTED AND SHIELDED NO. 16 A.W.G. COPPER CONDUCTORS. |
| B. | EACH ADDRESSABLE MODULE POWER CIRCUIT: TWO (2) NO. 14 A.W.G. COPPER CONDUCTORS. |
| C. | EACH ALARM BELL CIRCUIT: 1 PAIR TWISTED NO. 16 A.W.G. COPPER CONDUCTORS. |
| D. | EACH ALARM STROBE LIGHT CIRCUIT: 1 PAIR TWISTED NO. 14 A.W.G. COPPER CONDUCTORS, TWISTED. |
| E. | EACH CONTROL CIRCUIT: TWO (2) NO. 12 A.W.G. COPPER CONDUCTORS. |
| F. | EACH INITIATING CIRCUIT: TWO (2) NO. 14 A.W.G. COPPER CONDUCTORS. |

- ALL THIN WIRING SHALL BE INSTALLED IN DEDICATED, RIGID METAL CONDUIT (3/4" MINIMUM) THROUGHOUT OR EMT WHERE APPROVED BY CODE.
- CONDUITS SHALL ONLY ENTER THE SIDES OR BOTTOM OF THE FIRE ALARM CONTROL PANEL(S). CONDUITS SHALL NOT ENTER THE TOP OF THE FIRE ALARM CONTROL PANEL.
- ALL PENETRATIONS OF FLOOR SLABS AND FIRE WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH ALL LOCAL FIRE CODES.
- FIRE ALARM SYSTEM TERMINAL AND JUNCTION LOCATIONS SHALL BE IDENTIFIED IN ACCORDANCE WITH NFPA STANDARD 70, SECTION 760.3. TERMINAL AND JUNCTION BOXES SHALL BE PAINTED RED AND STENCILED IN WHITE LETTERS "FIRE ALARM" PREVENTING UNINTENTIONAL INTERFERENCE WITH THE FIRE ALARM SYSTEM WIRING DURING TESTING, SERVICING AND ADDITIONAL MODIFICATIONS TO THE SYSTEM.
- END OF LINE DEVICES (RESISTORS/DIODES/CAPACITORS) SHALL BE FURNISHED AS REQUIRED FOR MOUNTING AS DIRECTED BY THE MANUFACTURER.
- IDENTIFICATION, LABELING, MARKING

- | | |
|----|--|
| A. | PROCEDURE SIGN: INSTALL ADJACENT TO THE FIRE ALARM CONTROL PANEL AND SPRINKLER, TROUBLE ALARM BELLS. |
| B. | ZONE LOCATOR: INSTALL ADJACENT TO EACH MANUAL FIRE ALARM STATION. |
| C. | POWER-LIMITED CIRCUITS: MARK CIRCUITS AT TERMINATIONS, INDICATING THAT CIRCUIT IS A POWER-LIMITED FIRE PROTECTIVE SIGNALING CIRCUIT. |
| D. | LABELING CIRCUIT DISCONNECTS: LABEL EACH DEVICE USED AS THE CIRCUIT DISCONNECTING MEANS FOR THE DEDICATED BRANCH CIRCUITS SERVING THE SYSTEM FIRE ALARM OVERCURRENT PROTECTIVE DEVICE. |
| E. | IDENTIFICATION OF CIRCUITS: IDENTIFY WIRES AND CABLES IN INTERCONNECTION CABINETS AND THE FIRE ALARM ADDITION CONTROL PANEL WITH PREMARKED, SELF-ADHESIVE, WRAPAROUND TYPE MARKERS. DESIGNATIONS SHALL CORRESPOND WITH POINT TO POINT WIRING DIAGRAMS. |
| F. | BATTERY DATA: INSERT A COPY OF THE BATTERY WARRANTY IN EACH BATTERY COMPARTMENT AND MARK ON BATTERIES THE DATE PLACED IN SERVICE. |

- ALL FINAL CONNECTIONS SHALL BE MADE UNDER THE SUPERVISION OF A TRAINED MANUFACTURER'S TECHNICAL REPRESENTATIVE.
- PRIOR TO THE FINAL ACCEPTANCE TEST, THE CONTRACTOR AND A TRAINED MANUFACTURER'S TECHNICAL REPRESENTATIVE SHALL TEST THE COMPLETED SYSTEM FOR PROPER OPERATION. THE SYSTEM SHALL BE DEMONSTRATED TO PERFORM ALL OF THE FUNCTIONS AS BELOW LISTED IN THESE SPECIFICATIONS. ANY SYSTEM, EQUIPMENT OR WIRING FAILURES DISCOVERED DURING SAID TEST SHALL BE REPAIRED OR REPLACED BEFORE REQUESTING SCHEDULING OF THE FINAL ACCEPTANCE TEST.
- THE SYSTEM SHALL BE TESTED FOR FINAL ACCEPTANCE IN THE PRESENCE OF THE OWNER AND/OR OWNER'S REPRESENTATIVE, THE INSPECTOR FROM THE DIVISION OF FIRE PREVENTION, CONTRACTORS REPRESENTATIVE AND THE MANUFACTURERS REPRESENTATIVE. NOTIFY THE OWNER AND/OR AUTHORITY AT FIVE (5) WORKING DAYS PRIOR TO THE TEST SO THAT ARRANGEMENTS CAN BE MADE TO HAVE A FACILITY REPRESENTATIVE WITNESS THE TEST.

- DURING THE FINAL ACCEPTANCE TEST:

- | | |
|----|---|
| A. | EVERY MANUAL FIRE ALARM STATION SHALL BE TESTED. |
| B. | EVERY SMOKE SENSOR SHALL BE TESTED USING REAL SMOKE, SUCH AS THAT GENERATED BY PUNK STICKS. |
| C. | THE SPRINKLER SYSTEM WATERFLOW ALARM SWITCHES SHALL BE TESTED BY FLOWING WATER. THE NEW SPRINKLER SYSTEM VALVE TAMPER SWITCHES SHALL BE TESTED BY CLOSING SPRINKLER VALVES. |
| D. | EVERY AUDIBLE ALARM SIGNALING DEVICE SHALL BE SOUNDED. |
| E. | EVERY VISUAL ALARM SIGNALING DEVICE SHALL BE FLASHED. |
| F. | EVERY SYSTEM ADDITION CONTROL FUNCTION SHALL BE TESTED FOR ITS PROPER OPERATION. |
| G. | ALL NEW CIRCUITS SHALL BE OPENED AT TWO (2) LOCATIONS TO TEST FOR PROPER SUPERVISION. |
| H. | ANY AND ALL OTHER TESTS WHICH THE INSPECTOR FROM THE DIVISION OF FIRE PREVENTION SHALL REQUEST. |

- IF ANY OF THE TESTS SHALL FAIL TO INDICATE PROPER OPERATION OR IF THE FIRE DEPARTMENT INSPECTOR ISSUES A LIST OF DEFICIENCIES OR OBJECTIONS TO THE SYSTEM, THE CONTRACTOR SHALL IMMEDIATELY CORRECT ALL FAULTS AND IMPROPER FUNCTIONING AS PART OF HIS CONTRACT OBLIGATION. HE SHALL FURNISH AND INSTALL ALL LABOR AND MATERIALS THAT IS NECESSARY TO ACCOMPLISH THIS. THE CONTRACTOR SHALL THEN RESCHEDULE THE FINAL ACCEPTANCE TEST AND REDO ALL TESTS UNTIL THE SYSTEM IS ACCEPTED WITHOUT DISQUALIFICATION.

- UPON SUCCESSFUL COMPLETION OF ALL FINAL ACCEPTANCE TESTS, THE CONTRACTOR AND MANUFACTURER'S REPRESENTATIVE SHALL CO-SIGN LETTERS ATTESTING TO THE COMPLETION OF TESTING AND FORWARD TWO (2) COPIES OF SAID LETTERS TO THE OWNERS. THE DIVISION OF FIRE PREVENTION, CONTRACTOR REPRESENTATIVE AND THE MANUFACTURERS REPRESENTATIVE.

- ALL FINAL ACCEPTANCE TESTING SHALL BE DONE AT A TIME CONVENIENT TO THE DIVISION OF FIRE PREVENTION OFFICIAL AND THE OWNER AND ALL TESTING COSTS SHALL BE BORN BY THE CONTRACTOR AS PART OF THIS CONTRACT.

- DELIVER THAT CERTIFICATE TO THE OWNER BEFORE THIS WORK IS FINALLY ACCEPTED AND FINAL PAYMENT IS MADE.

- WITH THE ASSISTANCE OF THE MANUFACTURER, COMPILER AND PROVIDE TO THE OWNER SIX (6) COMPLETE MANUALS ON THE FINISHED SYSTEM TO INCLUDE:

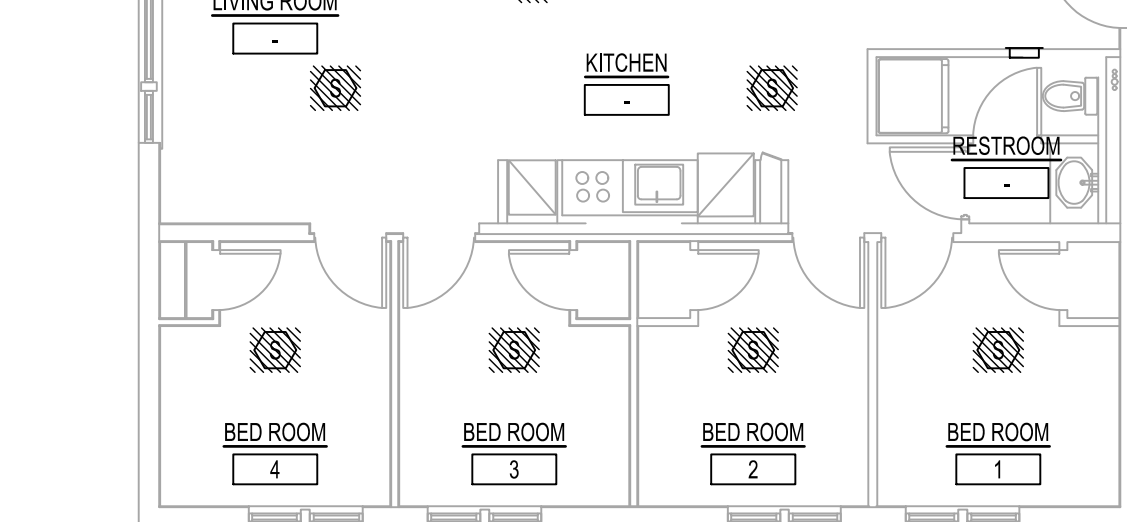
- | | |
|----|--|
| A. | OPERATING INSTRUCTIONS FOR THIS SPECIFIC SYSTEM TO INCLUDE OPERATOR INSTRUCTIONS FOR EACH REQUIRED MODE OF OPERATION AND ROUTINE TROUBLESHOOTING PROCEDURES. |
| B. | PREVENTIVE AND REQUIRED MAINTENANCE SCHEDULES FOR EACH TYPE OF SYSTEM EQUIPMENT AND/OR ACCESSORY. |
| C. | MANUFACTURER'S CATALOG PAGES OF ALL EQUIPMENT AND COMPONENTS PROVIDED. |
| D. | MANUFACTURERS SUGGESTED SPARE PARTS LIST. |
| E. | ALL AS-BUILT WIRING AND CONDUIT DIAGRAMS, BOTH FLOOR PLAN AND RISER TYPES. FLOOR PLAN DIAGRAMS SHALL INDICATE ACTUAL LOCATIONS OF EACH ITEM OF FIXED EQUIPMENT, AND SHOW INTERCONNECTING WIRING. |

- PROVIDE RED PAINTED, STEEL FRAME(96X12H MIN.) CODE CARDS AND HOLDERS WITH GLASS WINDOW. EACH CODE CARD SHALL LIST THE ALARM CODE AND AREA SERVED BY EACH ALARM INITIATING CIRCUIT IN THE BUILDING. PROVIDE (1) ONE CODE CARD AND HOLDER AT EACH MANUAL FIRE ALARM STATION IN THE BUILDING AND AT THE FIRE ALARM CONTROL PANEL.

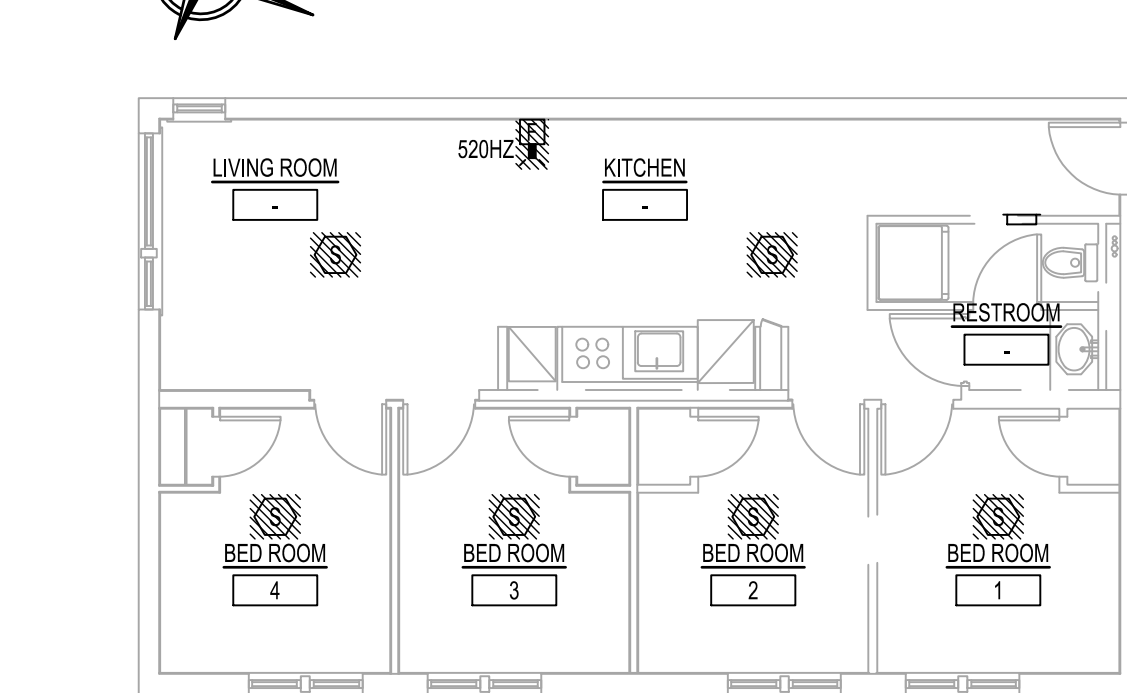
- SMOKE DETECTOR SHALL BE MINIMUM 3'-0" AWAY FROM ANY HVAC REGISTER.

SYMBOL LIST	
SYMBOL	DESCRIPTION
	NOTE NUMBER WITHIN DIAMOND TO BE SPECIFIC TO AREA/ITEM INDICATED ON DRAWING. NOTE NUMBER WITHOUT DIAMOND IS A GENERAL NOTE AND PERTAINS TO ALL CONDITIONS WHERE IT MAY APPLY.
	SYMBOLS DEPICTED AS SUCH (HEAVY LINE) SHALL INDICATE NEW DEVICES OR EQUIPMENTS FURNISHED AND INSTALLED UNDER THIS CONTRACT.
	SYMBOLS DEPICTED AS SUCH (LIGHT LINE) SHALL INDICATE EXISTING DEVICES OR EQUIPMENTS TO REMAIN.
	END OF LINE DEVICE.
	FIRE ALARM HORN/STROBE LIGHT (15/75cd) MOUNTING HEIGHT 80" A.F.F. OR 6" BELOW HUNG CEILING, WHICHEVER IS LOWER TO COMPLY W/ A.D.A., 520 HZ
	ADDRESSABLE SMOKE DETECTOR, CEILING MOUNTED.
	HEAT DETECTOR
	COMBINATION SMOKE DETECTOR AND CARBON MONOXIDE DETECTOR

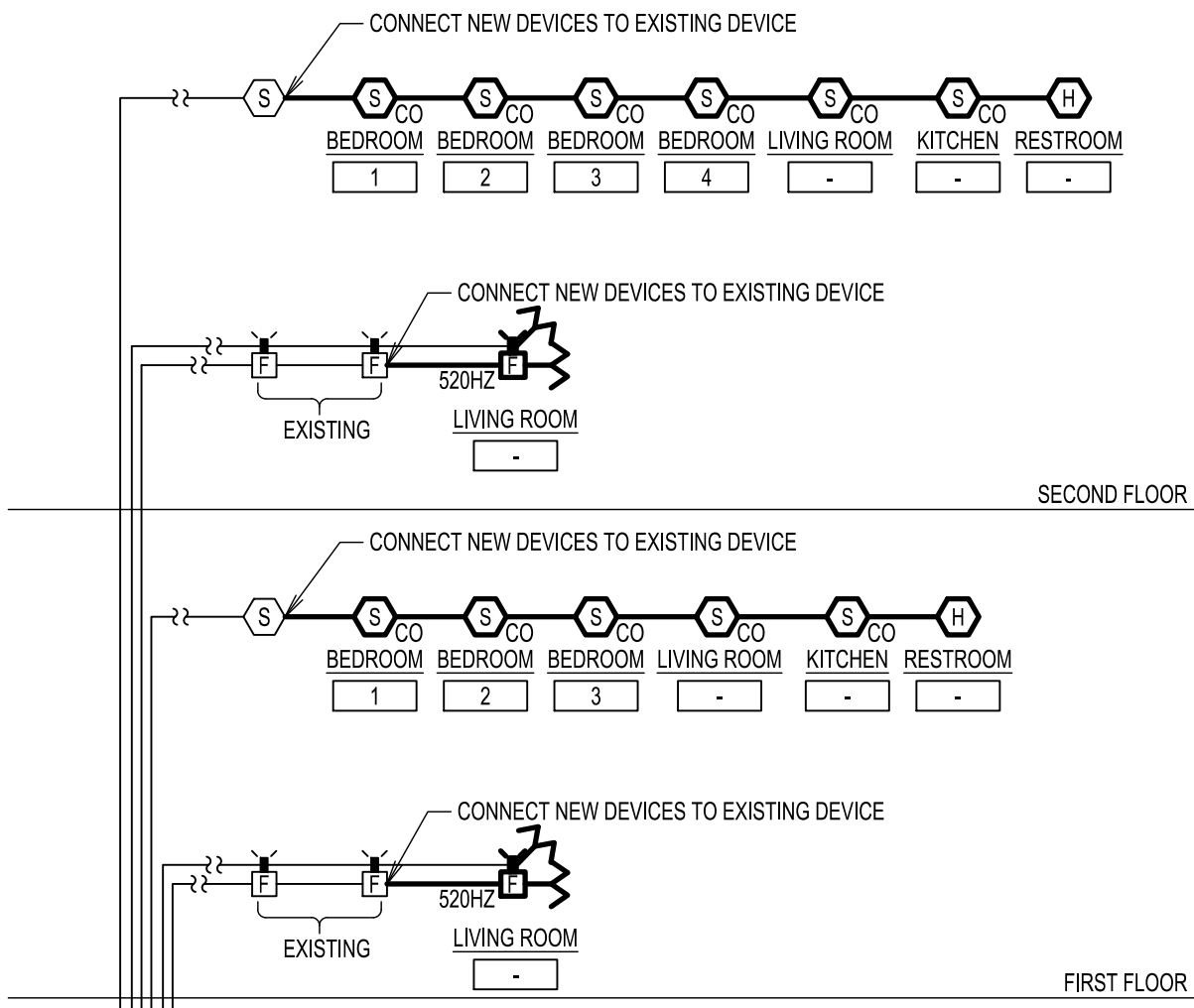
ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	FCS	FIRE COMMAND STATION
c	CONDUIT	GND, G	GROUND
cd	CANDELA	MTD	MOUNTED
D	DUAL	NFPA	NATION FIRE PROTECTION ASSOCIATION
DGP	DATA GATHERING PANEL	NIC	NOT IN CONTRACT
DN	DOWN	R	RELAY
DWG	DRAWING	RGS	RIGID GALVANIZED STEEL
EMT	ELECTRIC METALLIC TUBING	T/S	TWISTED SHIELDED
EX	EXISTING DEVICE/EQUIPMENT TO REMAIN	TYP	TYPICAL
FA	FIRE ALARM	U.O.N.	UNLESS OTHERWISE NOTED
FACP	FIRE ALARM CONTROL PANEL	V	VOLTAGE



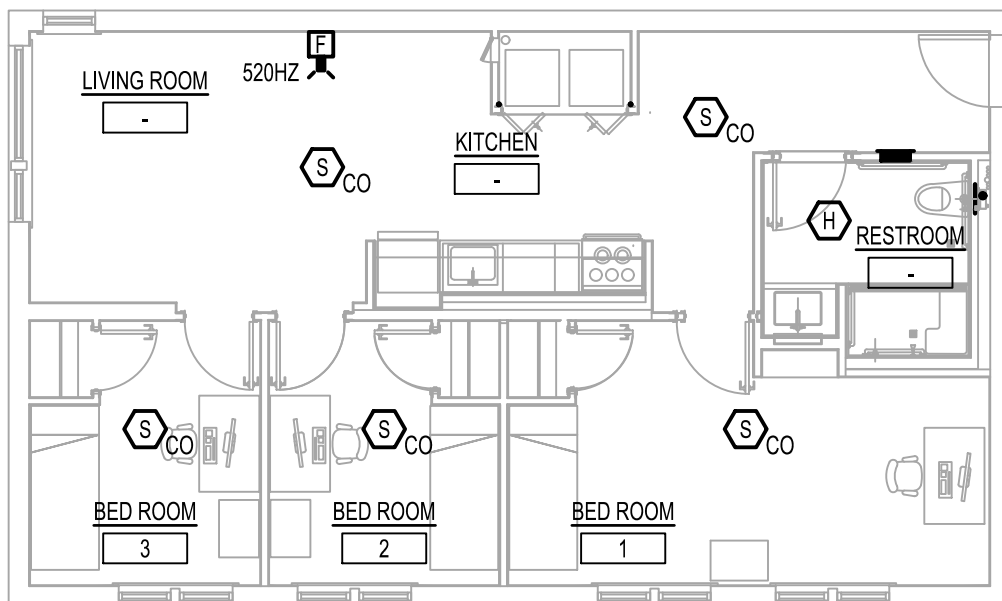
FIRST FLOOR FIRE ALARM DEMOLITION PLAN
SCALE: 1/8"=1'-0"



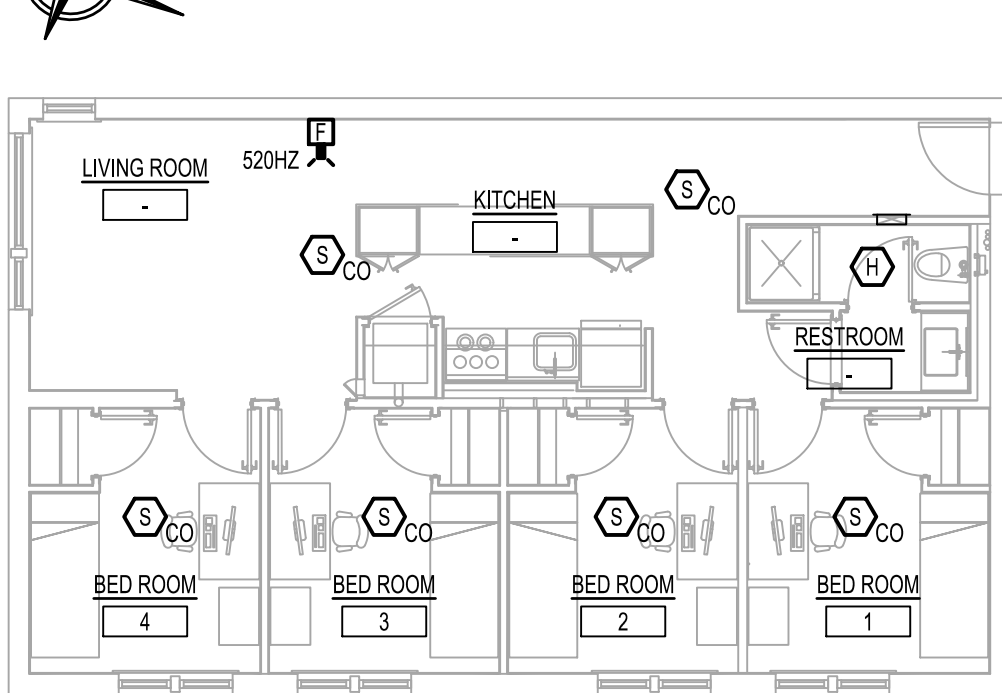
SECOND FLOOR FIRE ALARM DEMOLITION PLAN
SCALE: 1/8"=1'-0"



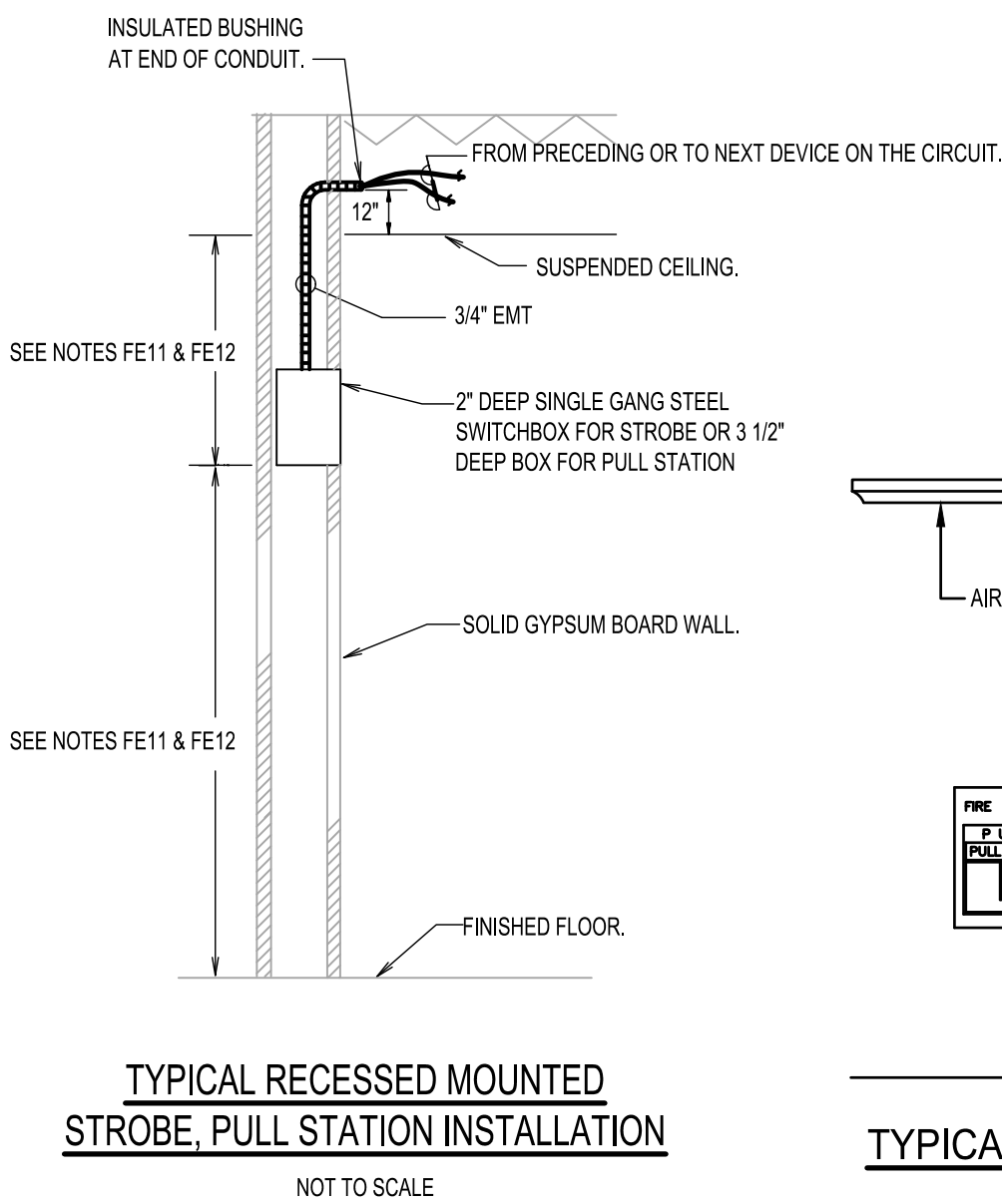
FIRE ALARM PARTIAL RISER DIAGRAM
NOT TO SCALE



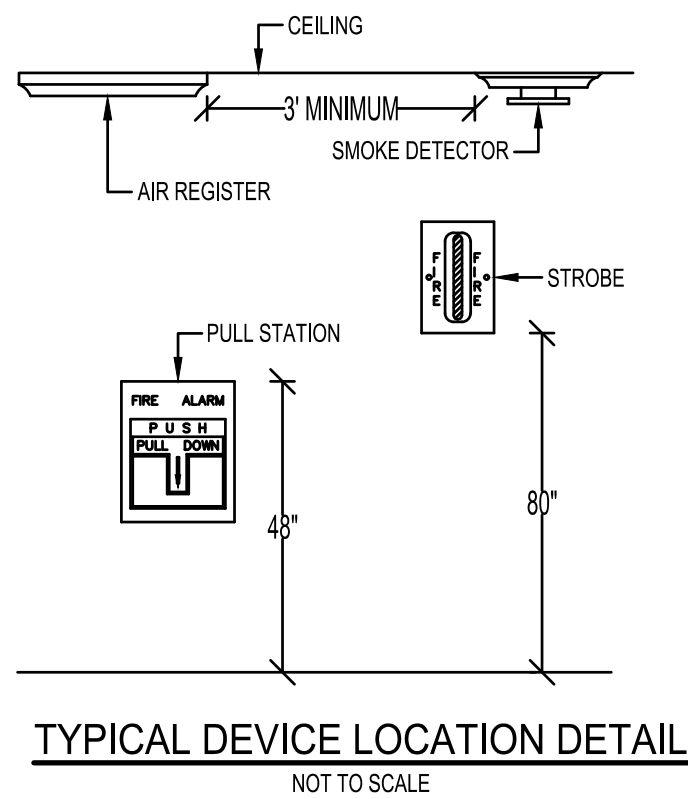
FIRST FLOOR FIRE ALARM NEW WORK PLAN
SCALE: 1/8"=1'-0"



SECOND FLOOR FIRE ALARM NEW WORK PLAN
SCALE: 1/8"=1'-0"



TYPICAL RECESSED MOUNTED
STROBE, PULL STATION INSTALLATION
NOT TO SCALE



TYPICAL DEVICE LOCATION DETAIL
NOT TO SCALE

FIRE ALARM SYSTEM EQUIPMENT NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL NEW FIRE ALARM SYSTEM, DEVICES WITH ASSOCIATED CABLING AND CONDUIT.
- CONNECT ALL NEW FIRE ALARM DEVICES TO THE NEAREST DGPS. COORDINATE ALL WORK WITH PURCHASE COLLEGE FIRE ALARM VENDOR. THE CONTACT PERSON IS NICHOLAS DELFICO, AOT, TEL: 914-416-6445, EMAIL: NICHOLASDELFI@AOT.COM. PROVIDE MODULES RELAYS, CONTRACTS ETC TO ACCOMPLISH BUILDING SEQUENCE OF OPERATIONS AND SHALL BE COMPATIBLE WITH EXISTING SYSTEM. ELECTRICAL CONTRACTOR TO PAY ALL FIRE ALARM VENDOR FEES FOR TECHNICAL SUPPORT, TIE IN, SUPERVISION, FLING FEES AND POINT TO POINT WIRING DIAGRAM.
- ALL FIRE ALARM WIRING TO BE (2) 2814TVSP CERTIFIED TEFLON FIRE DEPARTMENT APPROVED.
- SUBMIT SHOP DRAWINGS FOR APPROVAL.
- ALL FIRE ALARM SYSTEM COMPLY WITH ALL AUTHORITY HAVING JURISDICTION.
- ALL FIRE ALARM SYSTEM WIRING TO BE AS PER MANUFACTURER REQUIREMENTS & FIRE DEPT. APPROVED UNLESS OTHERWISE NOTED.
- UPON COMPLETION OF THE FIRE ALARM INSTALLATION, CONTRACTOR SHALL PROVIDE A REPROGRAMMING OF THE EXISTING FIRE ALARM SYSTEMS FOR THE INCORPORATION OF THE NEWLY INSTALLED FIRE ALARM DEVICES.
- INSULATE SHIELD AND DRAIN WIRE AS INDICATED ON TYPICAL SHIELD/DRAIN INSULATING METHOD
- SHIELD MUST BE CONTINUOUS AND INSULATED FROM BOXES, CONDUITS, ETC.
- INSTALL STROBE(S) AND/OR SPEAKER/STROBES COMBINATION APPLIANCES AT 80" ABOVE FINISHED FLOOR (AFF) OR 6" BELOW THE FINISHED CEILING OR WHICHEVER IS LOWER OR FOR PULL STATION INSTALL 48" A.F.F. (TO CENTER OF UNIT).
- INSTALL THE FIRE ALARM DEVICE AT 80" ABOVE FINISHED FLOOR (AFF) OR 6" BELOW THE UN-SUSPENDED CEILING OR WHICHEVER IS LOWER OR FOR PULL STATION INSTALL 48" A.F.F. (TO CENTER OF UNIT).

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Lizardos Engineering Associates D.P.C.

1	ISSUED FOR BID	03/17/2023
NL	REVISION	DATE

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CLIENT:

SUNY PURCHASE COLLEGE

PROJECT TITLE:

SUNY PURCHASE APARTMENT
REPAIR ALUMNI VILLAGE
INTERIOR RENOVATIONS OF THE
COMMONS APARTMENTS
10.1 (ADA COMPLIANT) & 10.3

DRAWING TITLE:
**FIRST AND SECOND FLOOR FIRE
ALARM DEMOLITION AND NEW WORK
PLANS**

DRAWN BY:	ET	SCALE:	AS NOTED
DESIGNED BY:	GL	DATE:	11-29-22
CHECKED BY:	ABD	PROJECT NO:	10652











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SHEET: 1 OF 00

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SPRINKLER LEGEND	
	NEW CONCEALED TYPE SPRINKLER HEAD
	EXISTING SPRINKLER HEAD TO BE REPLACED
	EXISTING SPRINKLER PIPING TO REMAIN
	NEW SPRINKLER PIPING
	SPRINKLER PIPING UP OR RISE
	SPRINKLER PIPING DN OR DROP
	SPRINKLER PIPE CAP
	PIPE CONTINUATION
	POINT OF DISCONNECTION
	POINT OF CONNECTION
EXIST	EXISTING
SP	SPRINKLER
CONN	CONNECTION
DN	DOWN

DRAWINGS LIST	
SP-001.00	SPRINKLER NOTES, LEGENDS, ABBREVIATIONS, SCHEDULE AND DETAILS
SP-101.00	SPRINKLER FIRST FLOOR DEMO AND NEW WORK
SP-201.00	SPRINKLER SPECIFICATIONS


SPRINKLER DESIGN CRITERIA:

(NEW YORK STATE BUILDING CODE AND NFPA 13)

OCCUPANCY CLASSIFICATION	LIGHT HAZARD (DORMITORY)
DENSITY	0.10 GPM /SQ.FT.
AREA OF APPLICATION	1,500 SQ.FT.
MAXIMUN COVERAGE PER SPRINKLER	225 SQ.FT.

SCOPE OF WORK:

- REPLACE EXISTING FIRST FLOOR SPRINKLER HEADS WITH NEW.
- MODIFY FIRST FLOOR SPRINKLER BRANCH PIPE TO ENSURE SPRINKLER HEADS ARE INSTALLED FLUSH WITH THE NEW CEILING.
- REPLACE 10 SPRINKLER HEAD CAPS AT SECOND FLOOR.

SPRINKLER HEAD SCHEDULE									
SYMBOL	TYPE	MODEL	LOCATION(S)	FINISH & REMARKS	TEMPERATURE RATING FACTOR (F°)	'K' FACTOR	SPRINKLER HEAD COVERAGE (FT²)	DENSITY GPM/SQ. FT.	APPROVALS
	QUICK RESPONSE CONCEALED PENDENT	TYCO RFII OR APPROVED EQUAL	1ST FLOOR	BRASS	155	5.6	130	130	UL/FM

* CONTRACTOR SHALL FURNISH AND INSTALL ESCUTCHEONS, TOOLS, AND ALL PARTS FOR INSTALLATION.

GENERAL SPRINKLER NOTES:

- CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
- PIPING ARRANGEMENTS ARE APPROXIMATE. CONTRACTOR MUST VERIFY EXACT LOCATION AND ROUTING PRIOR TO INSTALLATION.
- CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES AND EXISTING CONDITIONS ON THE JOB SITE AND MAINTAIN REQUIRED CEILING HEIGHTS AND CONDITIONS.
- CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, SERVICES, LABOR AND TESTS NECESSARY FOR COMPLETE EXECUTION OF ALL PLUMBING WORK.
- MATERIALS, EQUIPMENT AND SYSTEMS INSTALLED SHALL MEET ALL PERTINENT REQUIREMENTS OF NEW YORK STATE BUILDING CODES, NATIONAL FIRE PROTECTION ASSOCIATION, FEDERAL REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AND ANY NATIONALLY RECOGNIZED APPROVAL AGENCIES AS WELL AS APPLICABLE LOCAL CODES AND REGULATIONS.
- SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND REPLACEMENT OF ANY EXISTING SUSPENDED CEILINGS AND/OR FINISHES DAMAGED BY INSTALLATION OF PIPING UNDER SPRINKLER CONTRACT.
- PIPE SIZING AND PIPE LAYOUT SHOWN ARE BASED ON DESIGN PIPING LAYOUT ONLY. ACTUAL PIPE SIZES AND PIPING CONFIGURATION SHALL BE DETERMINED BY THE CONTRACTORS HYDRAULIC CALCULATIONS AND COORDINATION WITH THE OTHER TRADES BASED ON THEIR INSTALLATION DRAWINGS. THE CONTRACTOR SHALL ALLOW FOR THIS AND INCLUDE THIS IN THEIR CONTRACT PRICE. THE CONTRACTOR IS TO SUBMIT THESE TO THE NEW YORK STATE FIRE MARSHALL FOR APPROVAL AND TO OUR OFFICE FOR REVIEW PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL PHASE THE INSTALLATION OF THE NEW SPRINKLER SYSTEM PER THE PROGRAM AS INDICATED ON THE ARCHITECTURAL DRAWINGS. THE EXISTING SPRINKLER SYSTEM WITHIN THE PHASED AREA OF WORK SHALL BE CAPPED AND REMOVED AS REQUIRED HOWEVER, THE EXISTING SYSTEM OUTSIDE OF THE CURRENT PHASE OF THE WORK SHALL REMAIN IN SERVICE. MAKE TEMPORARY PIPING CONNECTIONS AS REQUIRED TO ASSURE THE EXISTING SYSTEM IS KEPT IN SERVICE.
- MINIMUM PRESSURE AT ANY SPRINKLER HEAD SHALL BE AS REQUIRED BY THE NFPA FOR THE MINIMUM DISCHARGE OF THE HEAD, BUT IN NO CASE LESS THAN 7 PSI.

COORDINATED SHOP DRAWING NOTE:

IT SHALL BE THE RESPONSIBILITY OF THE GC, MC, PC, EC AND FPC, TO PREPARE COORDINATED SHOP DRAWINGS PRIOR TO SUBMISSION TO DESIGN ENGINEER'S FOR APPROVAL. COORDINATED SHOP DRAWINGS SHALL BE ALL ENCOMPASSING AND SHALL INCLUDE BUT NOT BE LIMITED TO PIPING, CONDUITS, DUCTWORK, ROUTING, INVERT, SIZES SHOWN TO SCALE. ALL CONFLICTS SHALL BE RESOLVED TO THE BEST OF THE CONTRACTORS ABILITIES PRIOR TO SUBMISSION FOR ENGINEER REVIEW. THE FOLLOWING SHALL BE THE PROCESS FOR COORDINATED SHOP DRAWINGS.

MECHANICAL CONTRACTOR SHALL PREPARE A SHOP DRAWING INDICATING ALL DUCTWORK AND PIPING WITH THE PROPER INVERTS AND SIZES SHOWN TO SCALE. THE MC WILL THEN SEND THEIR DRAWINGS TO THE PC FOR PUTTING ON PLUMBING PIPING.

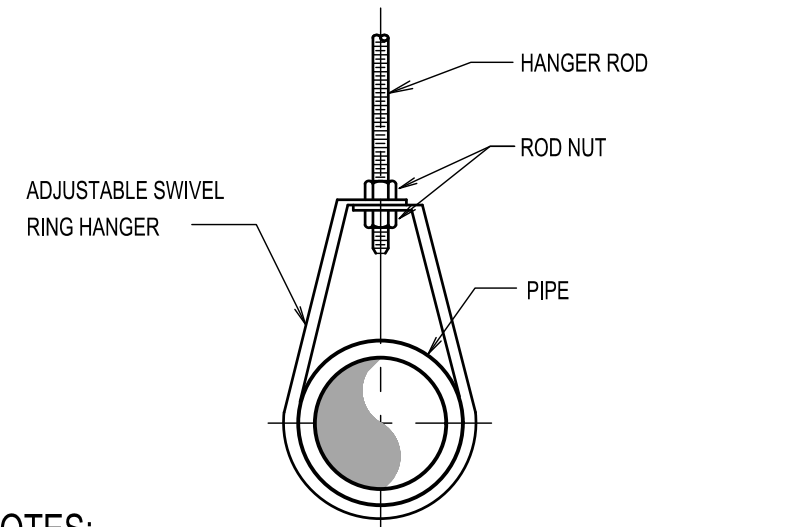
PLUMBING CONTRACTOR SHALL DRAFT ALL PROPOSED PLUMBING PIPING DIRECTLY ON THE MC PREPARED SHOP DRAWING. IF ANY CONFLICTS CANNOT BE RESOLVED INTERNALLY WITHIN PC OFFICE, THEY SHALL BE RETURNED BACK TO MC FOR FURTHER COORDINATION. THIS PROCESS SHALL REPEAT AS NEEDED WITH DUCTWORK AND PIPING MODIFICATIONS AS NEEDED TO CLEAR ALL POTENTIAL CONFLICTS.

ONCE NO CONFLICTS EXIST, THE COORDINATED SHOP DRAWING SHALL BE RELEASED TO THE ELECTRICAL CONTRACTOR. THE EC SHALL DRAFT ONTO THE COORDINATED SET, THEIR CONDUITS AND PIPING AT PROPER INVERT ELEVATION. ONCE AGAIN, ALL CONFLICTS THAT CANNOT BE HANDLED INTERNALLY BY THE EC, SHALL BE PASSED ALONG TO THE PC AND MC. THIS PROCESS SHALL BE REPEATED AS NEEDED WITH DUCTWORK AND PIPING MODIFICATIONS AS NEEDED TO CLEAR ALL POTENTIAL CONFLICTS.

ONCE NO CONFLICTS EXIST, THE COORDINATED SHOP DRAWINGS SHALL BE RELEASED TO THE FIRE PROTECTION CONTRACTOR. THE FPC SHALL DRAFT ONTO THE COORDINATED SET THEIR PIPING AND APPURTENANCES. ALL POTENTIAL CONFLICTS THAT CANNOT BE HANDLED INTERNALLY BY THE FPC, SHALL BE PASSED ALONG TO THE PC, MC AND EC. THIS PROCESS SHALL BE REPEATED AS NEEDED WITH DUCTWORK AND PIPING MODIFICATIONS AS NEEDED TO CLEAR ALL POTENTIAL CONFLICTS.

ONCE COORDINATED SHOP DRAWINGS ARE COMPLETE BY ALL SUB-CONSULTANTS AND CONTRACTORS, THE COORDINATED SHOP DRAWINGS SHALL BE SIGNED BY ALL RESPECTIVE DRAFTERS, AND ONLY THEN, CAN THE COORDINATE SHOP DRAWINGS BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL.

QUESTIONS FROM EACH TRADES FOR CLARIFICATIONS ARE ENCOURAGED TO BE ASKED DIRECTLY TO THE DESIGN ENGINEER. ANY PHONE CONVERSATIONS HAD SHALL BE FOLLOWED UP WITH A CONFIRMATION EMAIL CCING THE PROPER CHAIN OF COMMAND INCLUDING BUT NOT LIMITED TO GC AND ARCHITECT.

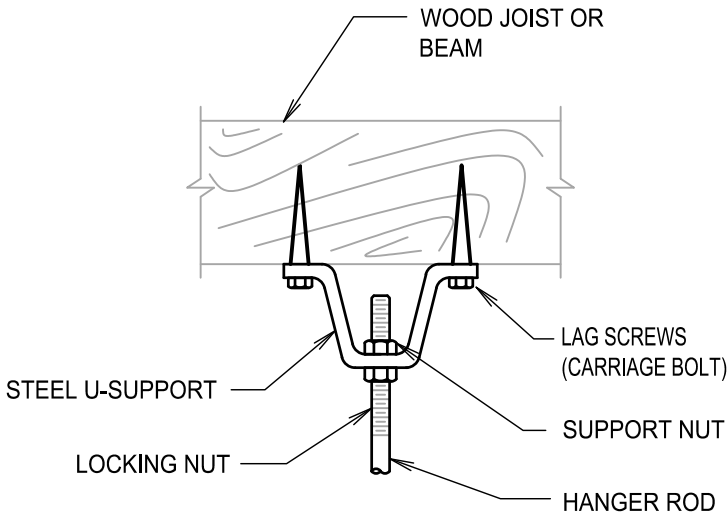


NOTES:

- HANGER'S AND ROD SIZES SHALL BE AS APPROVED BY F.M. AND NFPA #13.
- SWIVEL RING HANGERS SHALL BE USED FOR PIPING 4" AND SMALLER AND CLEVIS HANGERS SHALL BE USED FOR PIPING LARGER THAN 4 INCHES.

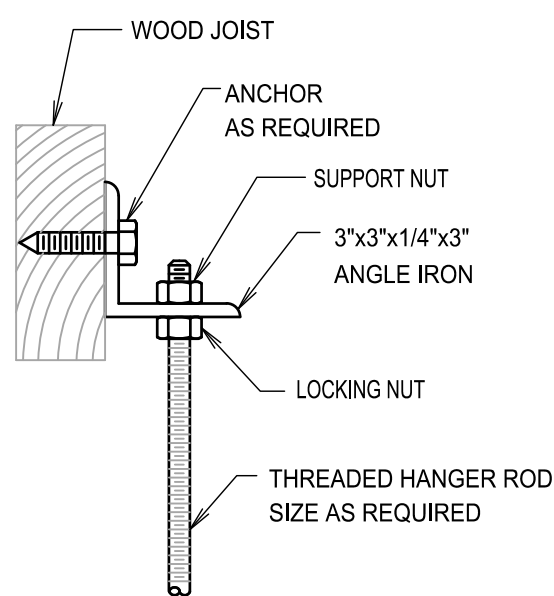
TYPICAL SPRINKLER PIPE HANGER SUPPORT DETAIL

NOT TO SCALE



ATTACHMENT TO WOOD JOISTS

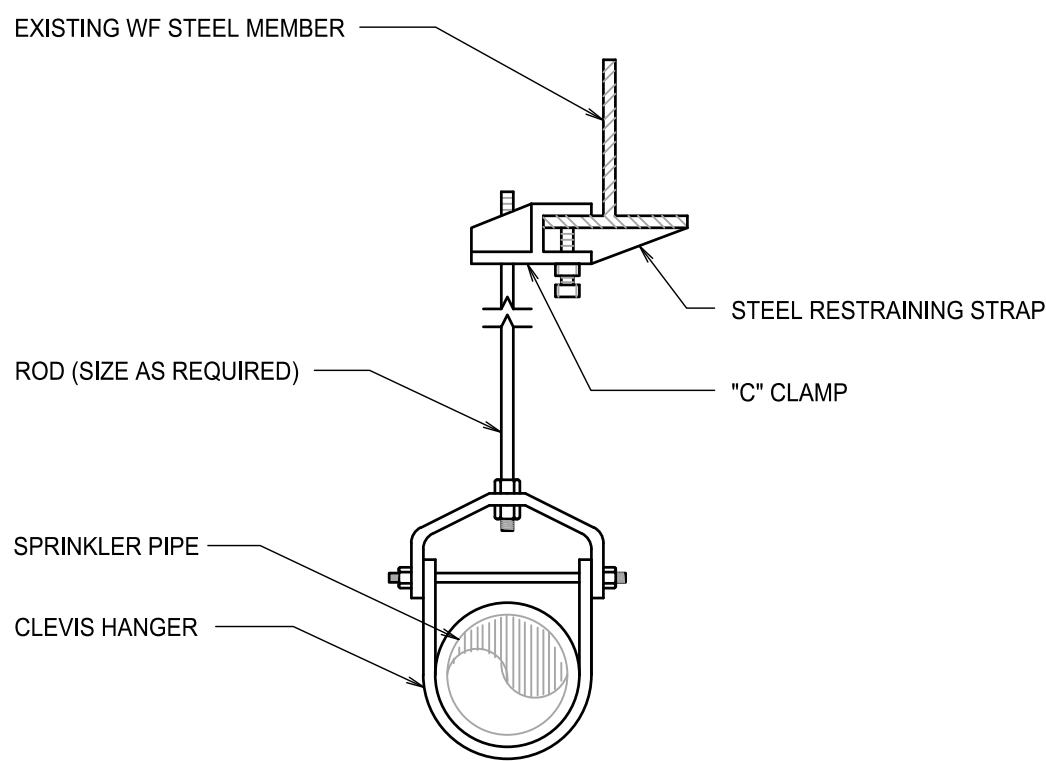
NOT TO SCALE



TYPICAL PIPE HANGER SUPPORT

FROM WOOD JOISTS

NOT TO SCALE

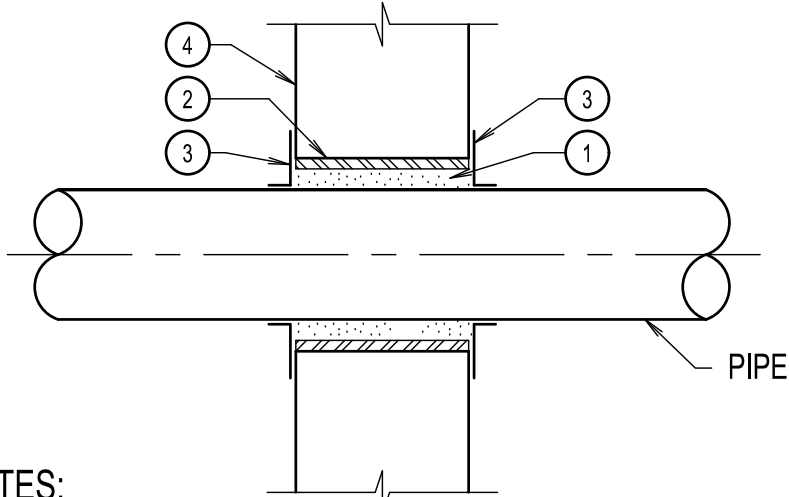


TYPICAL HANGER DETAILS

NOT TO SCALE

NOTES:

- CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1"
- GENERAL PURPOSE HANGERS MAY BE USED ON 1" SPRINKLER PIPING ONLY.

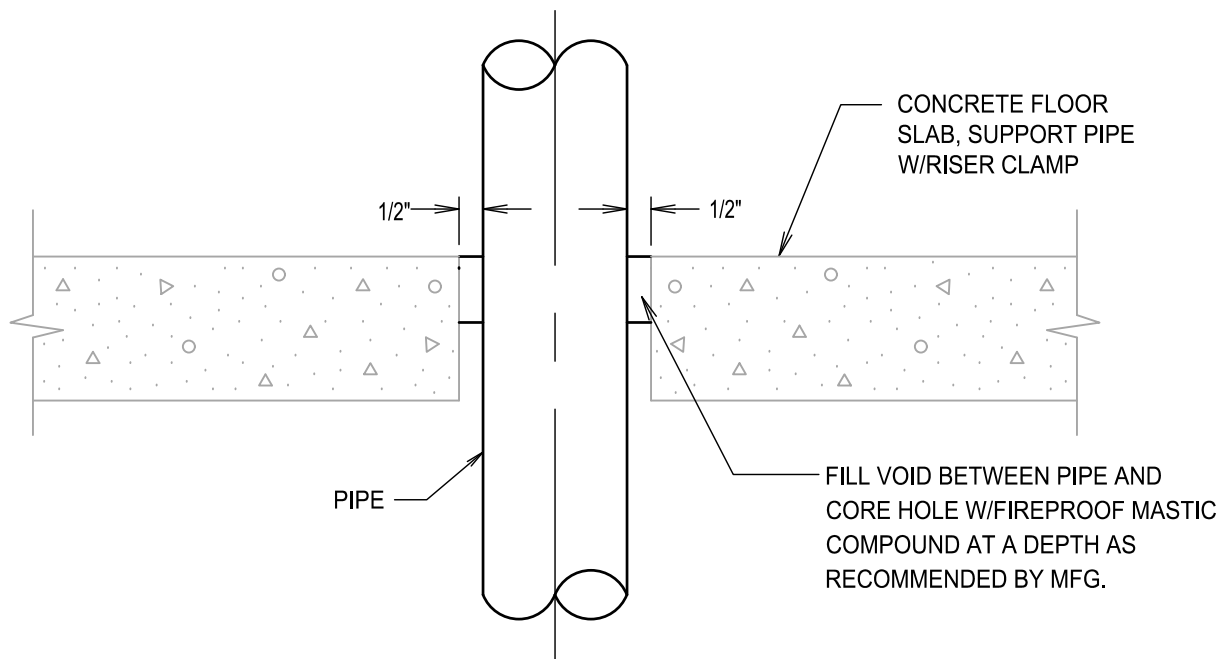


NOTES:

- FILL VOID BETWEEN SLEEVE AND PIPE (OR INSULATION) TO FULL DEPTH WITH INTUMESCE FIRE STOPPING MATERIAL (AT FIRE RATED WALL). MAXIMUM VOID 1/2-INCH
- SLEEVE
- ESCUTCHEON ON BOTH SIDES
- PARTITION, WALL OR FLOOR (SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING)

PIPE PENETRATION THRU FIRE WALL DETAIL

NOT TO SCALE



NOTE:

COORDINATE ALL CORE HOLE PENETRATIONS W/STRUCTURAL ENGINEER.

PIPE CORE HOLE DETAIL

NOT TO SCALE

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Lizardos Engineering Associates D.P.C.

1	ISSUED FOR BID	03/17/2023
NO.	REVISION	DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM ON THIS DRAWING AND/OR RELATED SPECIFICATION. ALL ALTERATIONS MUST BE MADE IN COMPLIANCE WITH THE NEW YORK STATE EDUCATION LAW. THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS HEREON ASSUMES NO RESPONSIBILITY FOR ANY SUCH ALTERATION OR REUSE WITHOUT HIS WRITTEN CONSENT.	SEAL:
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CLIENT:

SUNY PURCHASE COLLEGE

PROJECT TITLE:

SUNY PURCHASE APARTMENT
REPAIR ALUMNI VILLAGE
INTERIOR RENOVATIONS OF THE
COMMONS APARTMENTS
10.1 (ADA COMPLIANT) & 10.3

DRAWING TITLE:

SPRINKLER LEGENDS, NOTES,
ABBREVIATIONS, SCHEDULE AND
DETAILS

DRAWN BY: SE SCALE: AS NOTED

DESIGNED BY: AO DATE: 10-04-22

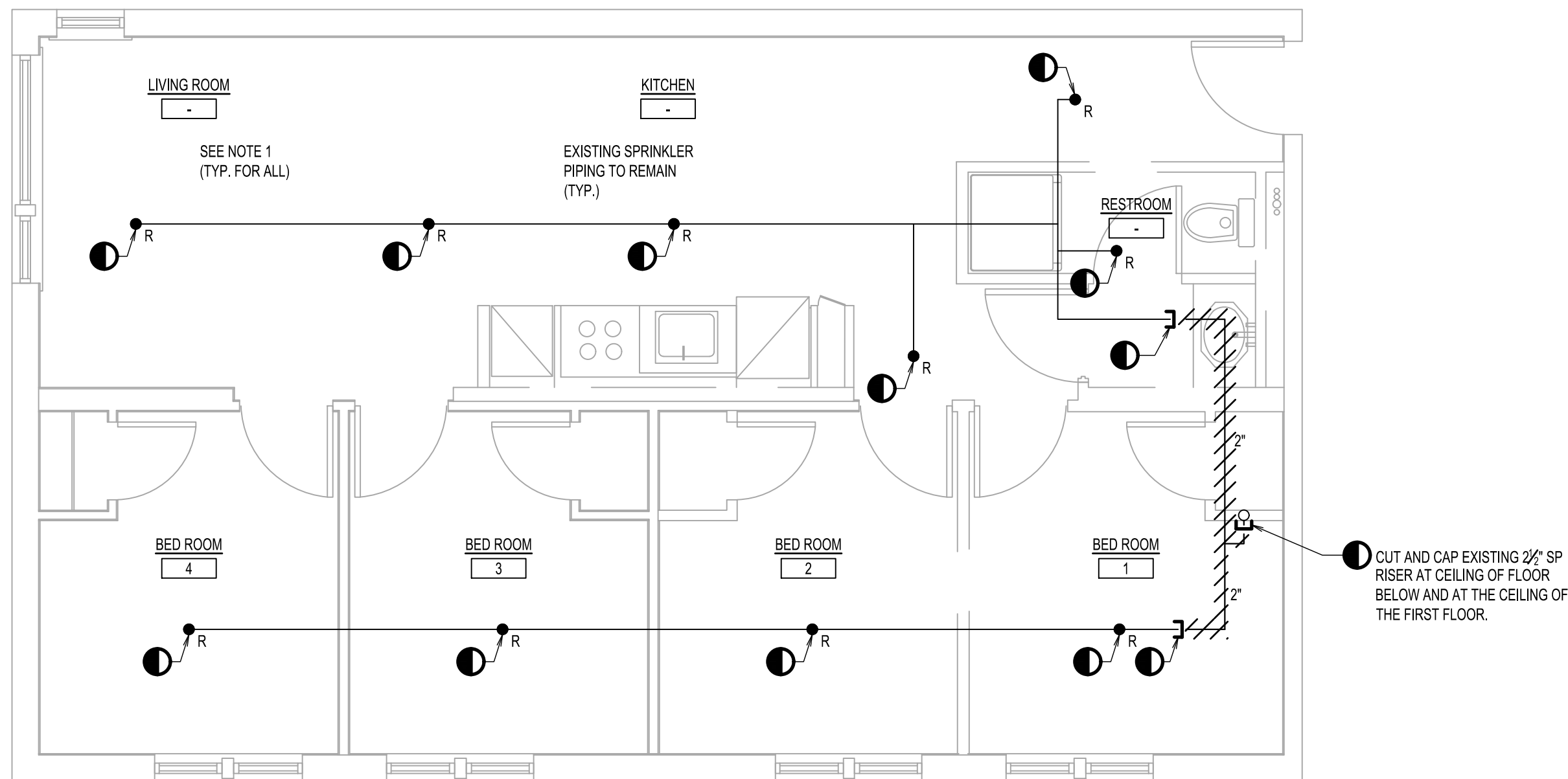
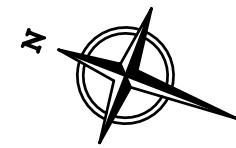
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SHEET: 1 OF 3

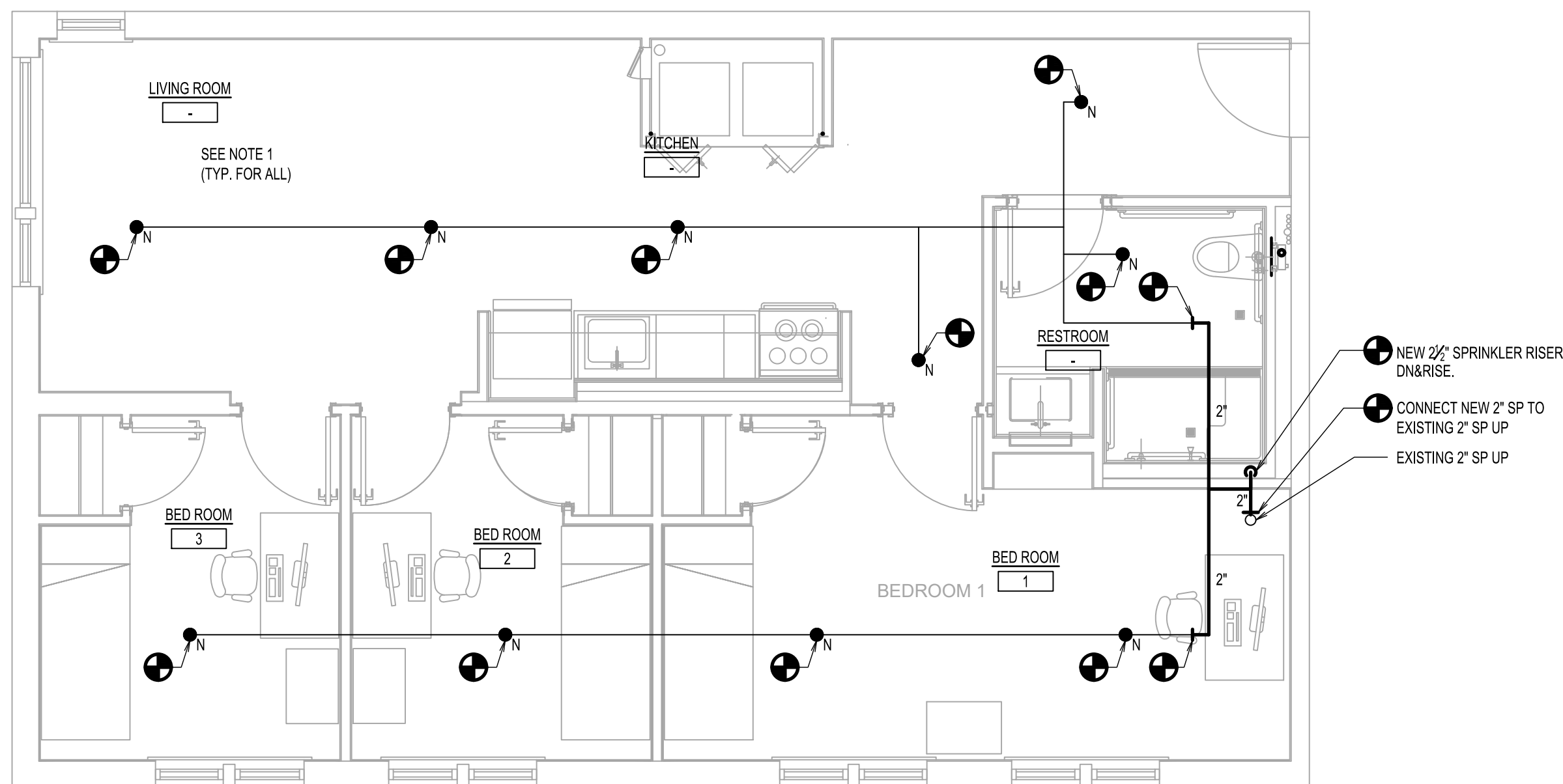
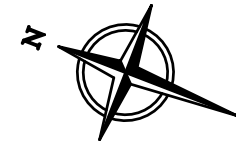


SPRINKLER FIRST FLOOR DEMOLITION PLAN

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

DEMOLITION NOTES:

1. DISCONNECT EXISTING CONCEALED PENDENT TYPE SPRINKLER HEAD. EXISTING SPRINKLER PIPING LAYOUT WILL REMAIN AS IS.



SPRINKLER FIRST FLOOR NEW WORK PLAN

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

NEW WORK NOTES:

1. FURNISH AND INSTALL NEW CONCEALED PENDENT TYPE SPRINKLER HEAD AND COVER PLATE. MODIFY 1" SPRINKLER BRANCH PIPING TO ENSURE SPRINKLER HEAD IS FLUSH WITH NEW CEILING. FOR SPRINKLER HEAD INFORMATION SEE DRAWING SP-001.
2. REPLACE EXISTING SPRINKLER CAPS ON THE SECOND FLOOR WITH NEW. SPRINKLER CAPS SHALL MATCH COLOR OF CEILING.

1	ISSUED FOR BID	03/17-2023
N.O.	REVISION	DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM ON THIS DRAWING AND/OR RELATED SPECIFICATION. ALL ALTERATIONS MUST BE MADE IN COMPLIANCE WITH THE NEW YORK STATE EDUCATION LAW. THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS HEREON ASSUMES NO RESPONSIBILITY FOR ANY SUCH ALTERATION OR REUSE WITHOUT HIS WRITTEN CONSENT.

SEAL:

CLIENT:

SUNY PURCHASE COLLEGE

PROJECT TITLE:

SUNY PURCHASE APARTMENT
REPAIR ALUMNI VILLAGE
INTERIOR RENOVATIONS OF THE
COMMONS APARTMENTS
10.1 (ADA COMPLIANT) & 10.3

DRAWING TITLE:

SPRINKLER FIRST FLOOR DEMO
AND NEW WORK

DRAWN BY:	SE	SCALE:	AS NOTED
DESIGNED BY:	AO	DATE:	10-04-22
CHECKED BY:	AO	PROJECT NO:	10652

PLOT DATE/TIME: 3/17/2023 3:57:17 PM

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2 OF 3

SPRINKLER SPECIFICATIONS:

21 00 00 GENERAL PROVISIONS FOR FIRE PROTECTION WORK

- A. INSTALL ALL WORK IN FULL ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODE REQUIREMENTS AND IN ACCORDANCE WITH OWNER'S INSURANCE COMPANY REQUIREMENTS.
- B. THE FIRE PROTECTION CONTRACTOR WILL BE RESPONSIBLE FOR MATERIAL AND WORKMANSHIP UNTIL COMPLETION AND FINAL ACCEPTANCE BY THE OWNER. REPLACE ANY DAMAGED, LOST OR STOLEN EQUIPMENT OR MATERIALS AT NO ADDITIONAL COST TO THE OWNER.
- C. SHOULD ANY AMBIGUITIES OR DISCREPANCIES BE FOUND ON THE DRAWINGS OR IN THE SPECIFICATIONS, OR BETWEEN THE DRAWINGS AND SPECIFICATIONS, THEN THE ARCHITECT SHALL INTERPRET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- D. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, UNLESS NOTED OTHERWISE.
- E. BEFORE SUBMITTING BID, VISIT THE SITE AND EXAMINE ALL ADJOINING WORK AND CONDITIONS ON WHICH THIS WORK IS IN ANY WAY DEPENDENT, INCLUDING BUT NOT LIMITED TO, MEANS OF MATERIAL EGRESS AND INGRESS, SPACE LIMITATIONS AND PARKING FACILITIES. REPORT ANY DISCREPANCIES TO THE OWNER.
- F. PROVIDE ALL LABOR, MATERIALS, APPLIANCES, TOOLS, SERVICES, RIGGING, SCAFFOLDING, HOISTING, SUPPORT AND SUPERVISION FOR FURNISHING AND INSTALLING ALL FIRE PROTECTION WORK AS SHOWN ON THE CONTRACT DRAWINGS AND SPECIFIED HEREIN.
- G. WORK UNDER THIS SECTION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
1. ARRANGE AND PAY FOR A HYDRANT FLOW TEST TO DETERMINE WATER SUPPLY PARAMETERS AND PERFORM HYDRAULIC FLOW CALCULATIONS FOR THE SYSTEM.
 2. IF AS-BUILTS FOR THE FACILITY CANNOT BE OBTAINED INDICATING THE ROUTING FROM THE WATER SERVICE TO THE AREA OF WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN FLOW TEST DATA BY ADDING A PRESSURE GAUGE ONTO THE EXISTING FLOOR CONTROL VALVE OR APPROVED EQUAL AREA AND RUNNING WATER FROM THE INSPECTORS TEST CONNECTION TO OBTAIN A STATIC AND RESIDUAL PRESSURE READING FOR FLOW TEST DATA POINTS AND CALCULATIONS.
 3. PREPARATION AND SUBMITTAL OF SHOP DRAWINGS.
 4. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL FIRE DEPARTMENT AND FIRE MARSHAL AS REQUIRED TO OBTAIN APPROVED DRAWINGS AND ALL PERMITS PRIOR TO CONSTRUCTION.
 5. DURING THE PROGRESS OF THE WORK, THE FIRE PROTECTION CONTRACTOR SHALL MAKE A RECORD OF ALL CHANGES BY WHICH THE ACTUAL INSTALLATION DIFFERS FROM THE CONTRACT DRAWINGS AND SHALL PREPARE AND SUBMIT AS-BUILTS AT END OF PROJECT.
 6. PROCUREMENT OF ALL NECESSARY PERMITS AND APPROVALS AND PAYMENT OF ALL FEES IN CONNECTION WITH THE WORK OF THIS DIVISION.
 7. PERFORMANCE OF SPECIAL INSPECTIONS.
 8. NO EQUIPMENT SHALL BE PURCHASED AND NO WORK INSTALLED WITHOUT CLEAR APPROVAL FROM BOTH DESIGN ENGINEER VIA SHOP DRAWINGS AND LOCAL FIRE MARSHAL VIA STAMPED COMMENTS. ANY WORK REQUIRED TO BE REMOVED AS A RESULT OF ENGINEER AND FIRE MARSHAL COMMENTS SHALL BE DONE AT NO COST TO OWNER.

- H. ALL WORK SHOWN ON THE CONTRACT DRAWINGS AND CALLED FOR IN THE SPECIFICATIONS.
- I. FLASHING, COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR, WALL AND ROOF PENETRATIONS.
- J. ACCESS DOORS FOR CONCEALED DEVICES.
- K. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE GENERAL ARRANGEMENT OF PIPING, EQUIPMENT AND FIXTURES. THE DRAWINGS SHOW THE VARIOUS EQUIPMENT AND PIPING SYSTEMS SCHEMATICALLY. NO ADDED COMPENSATION WILL BE PERMITTED FOR VARIATIONS DUE TO FIELD CONDITIONS. IT IS NOT THE INTENT FOR THE DRAWINGS TO SHOW, OR THE SPECIFICATIONS TO DESCRIBE, COMPLETE DETAILS OF EVERY COMPONENT OF THE SYSTEMS. FURNISH AND INSTALL ALL WORK IN ACCORDANCE WITH STANDARDS OF GOOD PRACTICE AND PROVIDE ALL REQUIRED APPURTENANCES AND ACCESSORIES FOR COMPLETE AND OPERATIONAL SYSTEMS.
- L. FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS. WHERE HEADROOM AND SPACE CONDITIONS APPEAR INADEQUATE, ARCHITECT SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION.
- M. ALL WORK, EQUIPMENT AND MATERIALS UNDER THIS DIVISION SHALL MEET THE APPROVAL OF ALL STATE AND LOCAL AGENCIES HAVING JURISDICTION, AND SHALL COMPLY STRICTLY WITH ALL APPLICABLE CODES. IN ADDITION, THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE OWNER'S INSURANCE COMPANY REQUIREMENTS. REQUIREMENTS OF THE ABOVE SHALL TAKE PRECEDENCE OVER PLANS AND SPECIFICATIONS.
- N. COORDINATE SPACE REQUIREMENTS WITH OTHER TRADES TO ASSURE THAT ALL MATERIALS CAN BE INSTALLED IN THE SPACE ALLOTTED.
- O. TRANSMIT TO TRADES DOING WORK OF OTHER DIVISIONS ALL INFORMATION REQUIRED FOR WORK TO BE PROVIDED UNDER THEIR SECTIONS OF THE WORK.
- P. SLEEVES FOR PIPES PASSING THROUGH MASONRY FLOORS, WALLS, AND PARTITIONS SHALL BE SCHEDULE 40 BLACK STEEL PIPE.
- Q. SLEEVES FOR PIPES PASSING THROUGH NON-MASONRY FLOORS, WALLS AND PARTITIONS SHALL BE 22-GAGE GALVANIZED STEEL.
- R. SLEEVES IN FIRE-RATED WALLS AND FLOORS SHALL BE FIRE-RATED LINK SEAL OR APPROVED EQUIVALENT.
- S. ACCEPTABLE FIRE STOP MATERIALS SHALL INCLUDE FIBERFRAX PYRE PUTTY AS MANUFACTURED BY FIBERS DIVISION OF CARBORUNDUM CO., FIRE STOP SYSTEM, AS MANUFACTURED BY DOW CORNING CORP., OR APPROVED EQUIVALENT.
- T. FIRE STOPS SHALL CONFORM TO ASTM E-814, UL-1479, AND ULC-S115M, AND SHALL BE RATED FOR ¼ TO 3 HOURS DEPENDING ON THE RATING OF THE PENETRATED MATERIAL. FIRE STOPS SHALL ALSO CONFORM TO ASTM E-84 FOR FLAME SPREAD AND SMOKE CONTRIBUTED, AND SHALL BE UL LISTED FOR USE IN "THROUGH-PENETRATION FIRE STOP SYSTEM" NOS. 124, 125, 150, 151.
- U. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A FULLY CODE COMPLIANT SYSTEM IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, NFPA 13, 14, AND 20 STANDARDS, APPENDIXES.
- V. CONTRACTOR SHALL COORDINATE INSTALLATION WITH LOCAL FIRE MARSHAL, FIRE DEPARTMENT AND LOCAL AHJ PRIOR TO THE START OF ANY CONSTRUCTION. LOCAL AHJ RESERVES THE RIGHT TO MAKE OR REQUEST ANY CHANGES TO THESE DRAWINGS.

21 01 00 OPERATION AND MAINTENANCE OF FIRE SUPPRESSION SYSTEMS

- A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL START-UP, TESTING AND BALANCING TO PROVIDE A FULLY FUNCTIONING SYSTEM.
- B. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING OPERATING AND MAINTENANCE MANUALS FOR ALL PIECES OF EQUIPMENT INSTALLED TO THE FACILITY.
- C. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR DEMONSTRATING THE USE OF ALL INSTALLED EQUIPMENT DIRECTLY TO FACILITIES APPOINTED PERSONNEL.
- D. MANUALS SHALL INCLUDE ALL APPROVED SHOP DRAWINGS, WIRING DIAGRAMS, OPERATING & MAINTENANCE INSTRUCTIONS, VALVE CHARTS, AS-BUILT DRAWINGS AND SHALL BE TRANSMITTED SOFT COPY VIA SHARE FILE TRANSFER. ARCHITECT AND ENGINEER SHALL BE COPIED ON THIS TRANSMISSION.
- E. SUBMIT A GUARANTEE TO THE ARCHITECT STATING THAT ALL PORTIONS OF THE WORK ARE IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS. GUARANTEE ALL WORK AGAINST FAULTY AND IMPROPER MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER, EXCEPT THAT WHERE GUARANTIES OR WARRANTIES FOR LONGER TERMS ARE SPECIFIED ELSEWHERE IN THE SPECIFICATIONS, SUCH LONGER TERM SHALL APPLY.
- F. TESTING AND ADJUSTING
1. TESTS SHALL BE PERFORMED TO THE SATISFACTION OF THE ARCHITECT. THE ARCHITECT WILL BE PRESENT AT SUCH TESTS, WHEN HE DEEMS NECESSARY AND SUCH OTHER PARTIES SHALL BE PRESENT AS MAY HAVE LEGAL JURISDICTION.
 2. AFTER THE ENTIRE INSTALLATION HAS BEEN COMPLETED, ALL REQUIRED ADJUSTMENTS TO EQUIPMENT, INSTRUMENTS, GAUGES, AUTOMATIC CONTROLS, PUMPS, ETC. SHALL BE MADE UNTIL ALL PERFORMANCE REQUIREMENTS ARE MET.
 3. PERFORM TESTING AND ADJUSTING AFTER AND PRESSURE TESTS ON WATER DISTRIBUTION SYSTEMS HAVE BEEN SATISFACTORILY COMPLETED.
 4. DEMONSTRATE THAT ALL EQUIPMENT AND APPARATUS FULFILL THE REQUIREMENTS OF THE SPECIFICATIONS. ALL EQUIPMENT SHALL BE OPERATED AND TESTED FOR RATED CAPACITIES AND SPECIFIED CHARACTERISTICS. VOLTAGE AND AMPERAGE READINGS SHALL BE TAKEN ON ALL ELECTRIC

MOTORS.

- G. EXAMINE APPROVED SUBMITTAL DATA FOR FIRE PROTECTION SYSTEMS AND EQUIPMENT.
- H. TESTING AND ADJUSTING REPORTS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
- I. ANY DAMAGES RESULTING FROM TESTS SHALL BE REPAIRED OR REPLACED AND THE TESTS SHALL BE REPEATED UNTIL THE PARTICULAR SYSTEM AND COMPONENT PARTS THEREOF RECEIVE THE APPROVAL OF THE ARCHITECT.
- J. IN ADDITION TO THE TESTS SPECIFIED HEREIN, CONTRACTOR SHALL PERFORM ANY AND ALL OTHER TESTS THAT MAY BE REQUIRED BY THE LOCAL MUNICIPALITY OR OTHER GOVERNING BODY, BOARD OR AGENCY HAVING JURISDICTION.
- K. EQUIPMENT TESTS
1. DEMONSTRATE THAT ALL EQUIPMENT AND APPARATUS FULFILL THE REQUIREMENTS OF THE SPECIFICATIONS. ALL EQUIPMENT SHALL BE OPERATED AND TESTED FOR RATED CAPACITIES AND SPECIFIED CHARACTERISTICS. VOLTAGE AND AMPERAGE READINGS SHALL BE TAKEN ON ALL ELECTRIC MOTORS.
- L. WATER PIPING TESTING
1. NO LEAKS WILL BE REPAIRED DURING THE PERIOD OF THE TEST, BUT WILL BE IMMEDIATELY REPAIRED THEREAFTER, AND THE TEST REPEATED UNTIL NO LEAKS APPEAR WITHIN THE TEST PERIOD.
 2. ALL SECTIONS OF THE BUILDING SPRINKLER SYSTEM ARE TO BE HYDROSTATICALLY TESTED AT NO LESS THAN 200 PSI FOR TWO HOURS. TEST PRESSURE IS TO BE ESTABLISHED BY A SMALL CAPACITY PUMP TO MINIMIZE WATER DAMAGE IN THE EVENT OF A BREAK.
 3. WHERE SCOPE OF WORK INCLUDES RELOCATION OF HEADS AND ASSOCIATED BRANCH PIPING AND ISOLATION OF SYSTEM IS NOT POSSIBLE, TESTING SHALL BE CONDUCTED AT OPERATING PRESSURE FOR TWO HOURS.
 4. WHERE IT IS PRACTICAL TO ISOLATE THE AREA OF WORK EITHER BY PRE CONNECTION TO EXISTING MAINS OR SIMILAR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING THE NEW SECTION OF PIPING AT 200 PSI FOR TWO HOURS. IF CONNECTION TO MAIN PIPING IS MADE PRIOR TO TESTING, CONTRACTOR SHALL BE RESPONSIBLE FOR DRAIN DOWN OF EXISTING SYSTEM, DISCONNECTION OF NEW CONNECTION AND TESTING OF NEW PIPING SYSTEM IN ITS ENTIRETY AT 200 PSI FOR 2 HOURS.
 5. TESTS ARE TO CONFORM TO REQUIREMENTS OF THE NFPA CODE MANUALS WITH LEAKAGE NOT TO EXCEED THE QUANTITIES THEREIN LISTED.
 6. WITH THE ENTIRE SYSTEM UNDER NORMAL OPERATING PRESSURE, EACH CONTROL VALVE IS TO BE OPENED AND CLOSED TO DEMONSTRATE PROPER OPERATION.
 7. THE PROPER OPERATION OF THE ALARMS IS TO BE DEMONSTRATED.
 8. PERFORM ALL TESTS IN THE PRESENCE OF THE ARCHITECT'S REPRESENTATIVE. RECORDS OF ALL TESTS ARE TO BE MADE AVAILABLE FOR THE ARCHITECT'S INSPECTION AS REQUIRED.
- M. CLEAN ALL PIPING AND EQUIPMENT OF ALL FOREIGN SUBSTANCES INSIDE AND OUT BEFORE BEING PLACED IN OPERATION.
- N. IF ANY PART OF A SYSTEM SHOULD BE STOPPED BY FOREIGN MATTER AFTER BEING PLACED IN OPERATION, THE SYSTEM SHALL BE DISCONNECTED, CLEANED, AND RECONNECTED WHEREVER NECESSARY TO LOCATE AND REMOVE OBSTRUCTIONS. ANY WORK DAMAGED IN THE COURSE OF REMOVING OBSTRUCTIONS SHALL BE REPAIRED WHEN THE SYSTEM IS RECONNECTED AT NO ADDITIONAL COST TO THE OWNER.
- O. AFTER COMPLETION OF ALL WORK AND ALL TESTS AND AT SUCH TIME AS DESIGNATED BY THE ARCHITECT, PROVIDE THE NECESSARY SKILLED PERSONNEL TO DEMONSTRATE THE ENTIRE INSTALLATION TO THE OWNER'S PERSONNEL FOR A PERIOD OF 4 HOURS.
- P. DURING THE OPERATING PERIOD, FULLY INSTRUCT THE OWNER'S REPRESENTATIVE IN THE COMPLETE OPERATION, ADJUSTMENT AND MAINTENANCE OF THE ENTIRE INSTALLATION.

21 05 05 DEMOLITION SCOPE FOR FIRE SUPPRESSION

- A. DEMOLITION AND REMOVAL OF EXISTING MATERIALS AND EQUIPMENT THAT ARE TO BE REPLACED OR ARE NO LONGER REQUIRED AS A RESULT OF THE NEW WORK.
- B. CUTTING AND PATCHING OF EXISTING WALLS AND CEILINGS SHALL BE PROVIDED UNDER THIS CONTRACTOR. ALL PATCHED WALLS AND CEILINGS SHALL MATCH EXISTING AND ADJACENT.
- C. ALL AREAS AND SURFACES THAT ARE PATCHED SHALL MATCH EXISTING ADJACENT FINISHES. WHERE A PAINTED WALL OR CEILING IS DISTURBED AND IS PATCHED, THE ENTIRE WALL OR CEILING MUST BE PAINTED. EXISTING CEILING TILES, BOARDS, GRIDS, ETC. THAT HAVE BEEN DAMAGED, STAINED, OR MARRED SHALL BE REPLACED WITH NEW MATERIALS EQUIVALENT TO THE EXISTING.
- D. COORDINATE WITH THE ARCHITECT BEFORE DISCONNECTING ANY EXISTING BUILDING SERVICES.
- E. IN GENERAL, PENETRATIONS THROUGH CONCRETE WALLS AND SLABS SHALL BE CORE DRILLED.
- F. FURNISH AND SET ALL SLEEVES REQUIRED FOR THE WORK OF THIS DIVISION. COORDINATE INSTALLATION WITH THE GENERAL CONTRACTOR. IN THE EVENT THAT FAILURE TO DO SO REQUIRES CUTTING AND PATCHING OF FINISHED WORK, IT SHALL BE DONE BY THE FIRE PROTECTION CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.
- G. WHERE EXISTING PIPING IS TO BE ABANDONED IN PLACE, THE PIPING SHALL BE CUT BACK AND CAPPED BELOW OR BEHIND THE ROUGH PATCHED SURFACE, AND COVERED BY FINISH PATCHING. WHERE EXISTING PIPING OR EQUIPMENT IS TO BE DEMOLISHED AND NO NEW PIPING OR EQUIPMENT IS TO BE INSTALLED, THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL REQUIRED PATCHING TO FILL VOIDS IN CONSTRUCTION RESULTING FROM REMOVALS.
- H. PROVIDE SLEEVES AND SEALS FOR ALL PIPE PENETRATIONS THROUGH FLOORS, CEILINGS AND WALLS. SLEEVES SHALL BE SET FLUSH WITH FINISHED WALL SURFACES, BUT EXTENDING 2-INCH ABOVE FINISHED FLOORS. THE OPEN SLEEVE SPACE SHALL BE PACKED WITH NON-COMBUSTIBLE MATERIALS. SLEEVES SHALL HAVE A MAXIMUM INTERNAL DIAMETER 1-INCH LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE OR PIPE INSULATION PASSING THROUGH THEM, AS APPLICABLE. THE ANNULAR SPACE OUTSIDE THE SLEEVE SHALL BE PATCHED TO MATCH THE EXISTING SURFACES. SEALS FOR SLEEVES IN FIRE RATED WALLS SHALL BE FIRE RATED. SEALS FOR SLEEVES IN FOUNDATION WALLS SHALL BE WATERPROOF. PROVIDE ESCUTCHEONS FOR ALL SLEEVES. EXPOSED ESCUTCHEONS SHALL BE CHROMIUM PLATED BRASS.
- I. SAFE OFF ALL OPENINGS AROUND PIPE PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS, ETC.
- J. PROVIDE FIRE STOPS AT ALL PENETRATIONS THROUGH FIRE RATED WALLS, PARTITIONS, CEILINGS, FLOORS, AND ROOFS.
- K. CONTRACTOR SHALL BE AWARE THAT THE REMAINDER OF THE BUILDING SHALL BE OCCUPIED DURING THE SELECTIVE DEMOLITION OF THE PROJECT AREA. ALL AREAS WITHIN THE BUILDING THAT ARE REQUIRED TO HAVE THEIR FIRE SUPPRESSION SYSTEMS DOWN FOR OVER 4 HOURS IN A 24 HOUR PERIOD OF TIME SHALL BE PROVIDED WITH EITHER TEMPORARY SPRINKLER PROTECTION OR FIRE WATCH/BRIGADE SHALL BE PROVIDED FOR THE OCCUPIED AREAS IN ACCORDANCE WITH NFPA 101 AND FIRE CODE. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING FOR AND HIRING THE FIRE WATCH TEAM.
- L. IF THE PROJECT AREA SPRINKLER SYSTEM IS TAKEN DOWN AND INACTIVATED FOR OVER 4 HOURS IN A 24 HOUR PERIOD, THIS CONTRACTOR SHALL BE REQUIRED TO PROVIDE A TEMPORARY CORE SPRINKLER LOOP, AND SPRINKLER PROTECTION BOTH INSIDE AND OUTSIDE THE PATH OF EGRESS AND EXIT ACCESS CORRIDORS/DOORS.

21 05 29 HANGERS AND SUPPORTS FOR FIRE SUPPRESSION PIPING AND EQUIPMENT

- A. HANGERS, SUPPORTS, FOUNDATIONS AND BASES FOR PIPING, EQUIPMENT, FIXTURES AND ASSOCIATED APPURTENANCES.
- B. ALL PIPING AND SUPPORTS SHALL BE INSTALLED IN FULL ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODE REQUIREMENTS, LOCAL FIRE MARSHAL'S REQUIREMENTS AND NFPA STANDARDS, AS APPLICABLE.
- C. PIPING SHALL BE INSTALLED CONCEALED IN AREAS HAVING HUNG CEILING AND/OR FURRED SPACES UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- D. PIPING SHALL NOT BE INSTALLED OVER CONTROL PANELS, SWITCHBOARDS, OR OTHER ELECTRICAL EQUIPMENT UNLESS APPROVED BY THE ARCHITECT. WHERE APPROVAL IS GIVEN, PROVIDE DRIP PANS AND SHIELDS TO PROTECT THE ELECTRICAL EQUIPMENT.
- E. PROVIDE HANGERS AND SUPPORTS FOR ALL PIPING AND EQUIPMENT. PIPING SUPPORTS SHALL COMPLY WITH NFPA STANDARDS.
- F. ALL EQUIPMENT, PIPING, ETC. SHALL BE MOUNTED OR SUSPENDED TO MINIMIZE VIBRATION TRANSMISSION. PROVIDE ISOLATION PADS, INERTIA BLOCKS, RUBBER MOUNTS, SPRING MOUNTS, SEISMIC RESTRAINTS, ETC. AS CALLED FOR ON THE DRAWINGS AND AS REQUIRED TO CONTROL VIBRATION AND MOVEMENT OF PIPING AND EQUIPMENT.
- G. PROVIDE ANCHORS AND GUIDES FOR PIPING WHERE REQUIRED TO CONTROL MOVEMENT.

- H. PIPING WITHIN 25 FEET OF ALL EQUIPMENT THAT IS SUPPORTED BY VIBRATION ISOLATORS SHALL BE SUPPORTED WITH STEEL SPRING AND RUBBER-IN-SHEAR TYPE VIBRATION ISOLATORS, WITH A MINIMUM OF 1-INCH STATIC DEFLECTION.
- I. AL SUPPORTS SHALL BE METALLIC.
- J. PIPE HANGERS FOR PIPES UP TO 4-INCH SHALL BE ADJUSTABLE CLEVIS TYPE. HANGERS FOR LARGER PIPES SHALL BE DOUBLE ROD TYPE. ATTACHMENT OF RODS TO STRUCTURAL BEAMS SHALL BE BY MEANS OF EYE-BEAM CLAMP, CHANNEL CLAMP OR WELDED BEAM ATTACHMENT.
- K. SUPPLEMENTARY STEEL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO SPAN BUILDING FRAMING IN ORDER TO ADHERE TO MAXIMUM HANGER SPACING.
- L. PROVISIONS SHALL BE MADE FOR EXPANSION AND CONTRACTION OF THE PIPING SYSTEMS TO PREVENT EXCESSIVE STRESSES ON PIPING AND EQUIPMENT. ALL REQUIRED ANCHORS, GUIDES, EXPANSION LOOPS, FLEXIBLE CONNECTORS, ETC. SHALL BE PROVIDED. ALL ANCHOR AND GUIDE DESIGNS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.
- M. PIPING SUPPORT SPACING AND HANGER ROD SIZE FOR STEEL AND COPPER PIPING SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

PIPE SIZE	MAXIMUM HANGER SPACING	MINIMUM ROD SIZE
1" AND SMALLER	6'-0"	3/8"
1-1/4" TO 2"	8'-0"	3/8"
2-1/2" TO 3-1/2"	10'-0"	1/2"
4" TO 6"	12'-0"	5/8"

- N. INSTALL BUILDING ATTACHMENTS WITHIN CONCRETE SLABS OR ATTACH TO STRUCTURAL STEEL. SPACE ATTACHMENTS WITHIN MAXIMUM PIPING SPAN LENGTH INDICATED. INSTALL ADDITIONAL ATTACHMENTS AT CONCENTRATED LOADS, INCLUDING VALVES, FLANGES, GUIDES, STRAINERS, AND EXPANSION JOINTS, AND AT CHANGES IN DIRECTION OF PIPING.
- O. PIPING AND EQUIPMENT SHALL BE SUPPORTED FROM BUILDING STEEL FRAMING WHEREVER POSSIBLE. WHERE NOT POSSIBLE, CONCRETE EXPANSION SHIELDS MAY BE USED IN STONE CONCRETE, BUT THE MAXIMUM HANGER SPACING SHALL BE 1/2 THAT INDICATED IN THE PREVIOUS TABLE. EXPANSION SHIELDS SHALL NOT BE USED IN CINDER CONCRETE.
- P. VERTICAL LINES SHALL BE ADEQUATELY SUPPORTED AT THEIR BASES EITHER BY A SUITABLE HANGER PLACED IN THE HORIZONTAL LINE NEAR THE RISER OR BY A BASE FITTING SET ON A PEDESTAL OR FOUNDATION, AND AT EVERY FLOOR WITH RISER CLAMP.
- Q. NO PIPING OR EQUIPMENT SHALL BE HUNG FROM OTHER PIPING OR EQUIPMENT.

21 05 53 IDENTIFICATION FOR FIRE SUPPRESSION PIPING AND EQUIPMENT

- A. ALL PIPING AND EQUIPMENT SHALL BE PROVIDED WITH IDENTIFICATION AND LABELING PER ALL LOCAL, STATE AND FEDERAL CODES.
- B. ALL EXPOSED SPRINKLER SYSTEM PIPING, FITTINGS, VALVES, HANGERS AND OTHER COMPONENTS (EXCEPT SPRINKLER HEADS) SHALL BE CLEANED AND PAINTED WITH ONE COAT OF PRIMER AND ONE FINISH COAT. FINISH COAT COLOR SHALL BE AS SELECTED BY THE ARCHITECT.
- C. ALL SYSTEMS AND EQUIPMENT SHALL BE IDENTIFIED WITH SIGNAGE AND MARKERS IN ACCORDANCE WITH NFPA STANDARDS AND THE REQUIREMENTS OF THE LOCAL FIRE MARSHAL.

21 13 00 FIRE SUPPRESSION SPRINKLER SYSTEMS

- A. PIPE, FITTINGS, VALVES AND SPECIALTIES
1. PIPING MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
SERVICE MATERIAL WEIGHT TYPE SPRINKLER
WET SYSTEMS 2" AND UNDER STEEL ASTM A-795 SCHEDULE 40 BLACK SPRINKLER
WET SYSTEMS 2-1/2" AND OVER STEEL ASTM A-795 SCHEDULE 10 BLACK SPRINKLER.
 2. FITTING MATERIALS AND JOINT TYPE SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
SERVICE MATERIAL WEIGHT JOINT TYPE SPRINKLER
WET SYSTEMS 2" AND UNDER MALLEABLE IRON SCHEDULE 40 SCREWED SPRINKLER.
WET SYSTEMS 2-1/2" AND OVER STEEL SCHEDULE 40 ROLLED GROOVED SPRINKLER.
- B. SPRINKLER HEADS
1. SPRINKLER HEADS SHALL BE UL LISTED, FACTORY MUTUAL APPROVED, AND SHALL BE CAST BRASS FUSIBLE-LINK SPRAY TYPE WITH 1/2" DISCHARGE ORIFICE. HEADS INSTALLED WHERE THEY ARE SUBJECT TO MECHANICAL INJURY SHALL BE PROTECTED WITH APPROVED GUARDS.
 2. SPRINKLER HEADS SHALL BE MANUFACTURED BY RELIABLE OR VIKING OR EQUAL. MIXING OF MANUFACTURERS WILL NOT BE PERMITTED UNLESS OTHERWISE NOTED. REFER TO "SPRINKLER HEAD LEGEND" FOR ADDITIONAL INFORMATION UNLESS OTHERWISE NOTED.
 3. ALL SPRINKLER HEADS SHALL BE CLEARLY LISTED FOR THEIR TEMPERATURE, RESPONSE AND TYPE.
 4. SPRINKLER HEADS IN ROOM WITH ACT, GYP BOARD OR SIMILAR DROP CEILINGS SHALL BE QUICK RESPONSE CONCEALED PENDENT RELIABLE G4A, G5.56 OR APPROVED EQUAL.
 5. SPRINKLER HEADS IN ROOM WITH NO CEILINGS AND EXPOSED TO DECK SHALL BE QUICK RESPONSE UPRIGHT RELIABLE F1FR OR APPROVED EQUAL.
 6. EXTRA HEADS: PROVIDE EXTRA HEADS, 6 EACH TYPE, ENCLOSED IN SUITABLE RECEPTACLES, AND PROVIDE ONE HEAD WRENCH FOR EACH TYPE. RECEPTACLES SHALL BE MOUNTED WHERE DIRECTED BY THE ARCHITECT.

REQUIRED SUBMITTALS - DIVISION 21:

21 01 00	OPERATION AND MAINTENANCE OF FIRE SUPPRESSION
21 05 05	SELECTIVE DEMOLITION FOR FIRE SUPPRESSION
21 05 29	HANGERS AND SUPPORTS FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT
21 05 53	IDENTIFICATION FOR FIRE-SUPPRESSION PIPING AND EQUIPMENT
21 13 00	FIRE-SUPPRESSION SPRINKLER SYSTEMS

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NO.	REVISION	DATE

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CLIENT:

SUNY PURCHASE COLLEGE

PROJECT TITLE:

SUNY PURCHASE APARTMENT
REPAIR ALUMNI VILLAGE
INTERIOR RENOVATIONS OF THE
COMMONS APARTMENTS
10.1 (ADA COMPLIANT) & 10.3

DRAWING TITLE:

SPRINKLER SPECIFICATIONS

DRAWN BY:	SE	SCALE:	AS NOTED
DESIGNED BY:	AO	DATE:	10-04-22
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SHEET: 3 OF 3

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