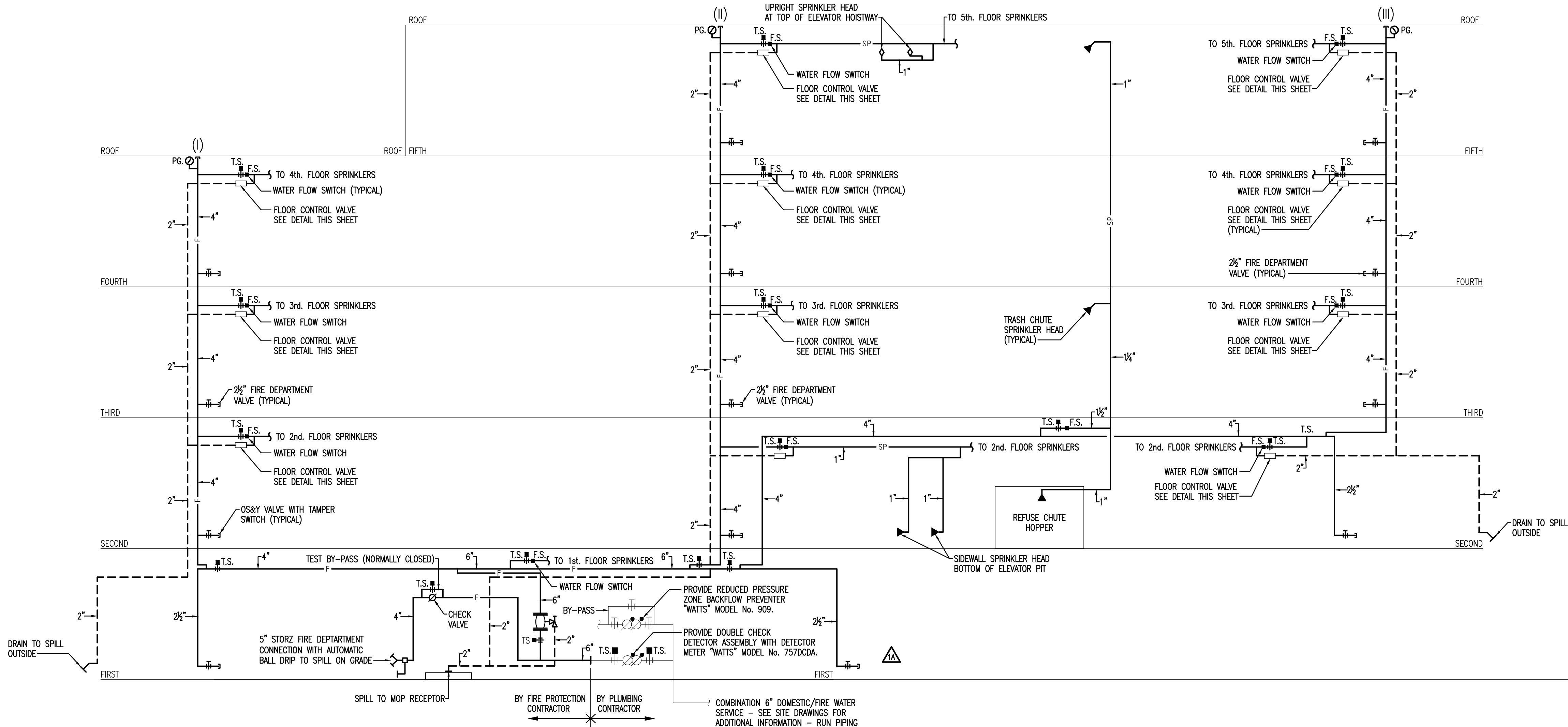
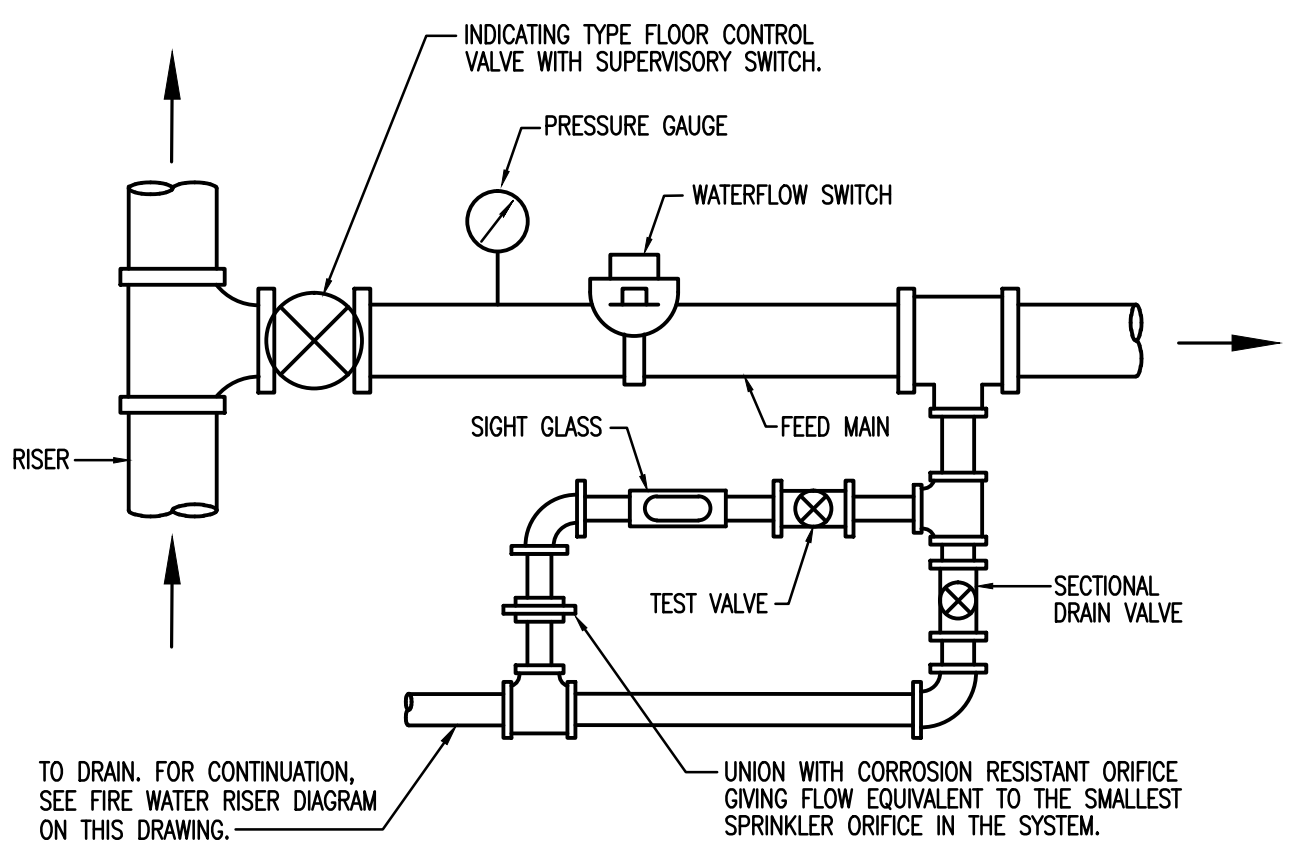


GENERAL NOTES

- DESIGN, FABRICATE, INSTALL AND SECURE REQUIRED APPROVALS FOR A COMPLETE FIRE PROTECTION SYSTEM THROUGHOUT THE BUILDING AND/OR AS SPECIFIED, FOR A COMPLETE AND PROPER INSTALLATION IN ACCORDANCE WITH PERTINENT REQUIREMENTS OF FM GLOBAL AND GOVERNMENT AGENCIES HAVING JURISDICTION.
- THE FIRE PROTECTION SYSTEM IS A WET PIPE SYSTEM EMPLOYING AUTOMATIC SPRINKLERS ATTACHED TO A PIPING SYSTEM CONTAINING WATER.
- SPRINKLER CONTRACTOR SHALL PROVIDE PIPING MAINS WITH SIZES AS SHOWN, OR LARGER (WHEN SHOWN) AND WITH BRANCH PIPING SIZED AS REQUIRED BY SPRINKLER CONTRACTORS HYDRAULIC CALCULATIONS. SPRINKLER CONTRACTOR SHALL PREPARE SHOP DRAWINGS IN ACCORDANCE WITH NFPA 13 IDENTIFIED AS WORKING PLANS INCLUDING HYDRAULIC CALCULATIONS. THIS SUBMITTAL SHALL BE DESIGNED BY AND SIGNED AND SEALED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER WHO SHALL BE THE "ENGINEER OF RECORD" FOR THE FINAL FIRE SPRINKLER/STANDPIPE SYSTEMS, SO DESIGNED. THE SPRINKLER CONTRACTOR SHALL SUBMIT THE WORKING PLANS AND CALCULATIONS TO THE ARCHITECT AND ENGINEER FOR GENERAL SCOPE REVIEW PRIOR TO SUBMITTING TO THE AUTHORITIES HAVING JURISDICTION. SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMISSION OF SHOP DRAWINGS, SPECIFICATIONS, WATER SUPPLY DATA, HYDRAULIC CALCULATIONS, ETC. FOR THE AUTOMATIC FIRE SPRINKLER SYSTEMS TO BE INSTALLED. AUTHORITIES HAVING JURISDICTION SHALL INCLUDE ALL LOCAL AGENCIES AS WELL AS THE STATE OF NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS, DIVISION OF CODES AND STANDARDS.
- SPRINKLER CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR EACH TYPE SPRINKLER HEAD, VALVE, PIPING SPECIALTY AND FIRE PROTECTION SPECIALTY.
- INSTALLER'S QUALIFICATIONS: A QUALIFIED FIRM THAT IS EXPERIENCED (MINIMUM OF 5 PREVIOUS PROJECTS SIMILAR IN SIZE AND SCOPE TO THE PROJECT) IN SUCH WORK, FAMILIAR WITH PRECAUTIONS REQUIRED, AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. FIRE PROTECTION CONTRACTOR SHALL SUBMIT APPROPRIATE CERTIFICATION INCLUDING CERTIFICATION NUMBER UPON SHOP DRAWING SUBMISSION.
- SPRINKLER CONTRACTOR SHALL PERFORM FIELD ACCEPTANCE TESTS OF THE FIRE PROTECTION SYSTEM. FLUSH, TEST AND INSPECT SPRINKLER PIPING SYSTEM ACCORDING TO NFPA 13.
- FURNISH EXTRA SPRINKLER HEADS AND SPRINKLER HEAD CABINETS WITH ASSOCIATED WRENCHES PER THE FOLLOWING SCHEDULE:
FOR SYSTEMS HAVING LESS THAN 300 SPRINKLERS, NOT FEWER THAN 8 SPRINKLERS
FOR SYSTEMS WITH 300 TO 1000 SPRINKLERS, NOT FEWER THAN 12 SPRINKLERS
FOR SYSTEMS WITH OVER 1000 SPRINKLERS, NOT FEWER THAN 24 SPRINKLERS
- THE CONTRACTOR SHALL DESIGN AUTOMATIC SPRINKLER SYSTEM PER FM GLOBAL PROPERTY LOSS PREVENTION DATA SHEET 3-26, FIRE PREVENTION WATER DEMAND FOR NONSTORAGE SPRINKLER PROPERTIES. DESIGN HAZARD CATEGORY 2 (HC-2) AREAS (i.e. MECHANICAL, ELECTRICAL ROOMS, PENTHOUSES) FOR A MINIMUM DEMAND OF 0.20 GPM/SQ. FT. OVER 2500 SQ. FT. WITH A 250 GPM HOSE STREAM ALLOWANCE FOR A DURATION OF 60 MINUTES. SPRINKLERS IN THESE AREAS SHOULD HAVE A MINIMUM K-FACTOR OF 8.0. HYDRAULIC CALCULATIONS WITH NODAL REFERENCES SHALL BE PROVIDED TO FM GLOBAL FOR REVIEW AND COMMENT. CONTRACTOR SHALL PROVIDE FM APPROVED EQUIPMENT (SPRINKLERS, PIPING, FITTINGS, ETC.) AND INSTALL THE SYSTEM PER FM GLOBAL DATA SHEET 2-0, INSTALLATION GUIDELINES FOR AUTOMATIC SPRINKLERS. PART OF THE ACCEPTANCE OF THE AUTOMATIC SPRINKLER SYSTEMS WILL BE BY FIELD EXAMINATION FROM FM GLOBAL PERSONNEL AND SATISFACTORY COMPLETION OF THE FM GLOBAL FORM 85A. CONTRACTOR'S MATERIAL AND TEST CERTIFICATE
DESIGN CRITERIA: SPRINKLER PROTECTION SHALL BE AS FOLLOWS:
A. BASED ON LIGHT HAZARD OCCUPANCY - DENSITY OF 0.10 GPM/SQ. FT., MAXIMUM COVERAGE OF 225 SQ. FT. PER SPRINKLER HEAD FOR PUBLIC AREAS, OFFICES & LIVING QUARTERS. 1500 SQFT. REMOTE DESIGN AREA.
B. BASED ON DESIGN HAZARD CATEGORY 2 (HC-2) DENSITY OF 0.20 GPM/SQFT. OVER 2500 SQFT. MINIMUM K-FACTOR OF 8.0, WITH A 250 GPM HOSE STREAM ALLOWANCE. FOR MECHANICAL, STORAGE, ELECTRICAL ROOMS. (PER FM GLOBAL REQUIREMENTS.)
- INSTALL SPRINKLER PIPING TO PROVIDE FOR SYSTEM DRAINAGE IN ACCORDANCE WITH NFPA 13 AND THE REQUIREMENTS OF FM GLOBAL AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- HANGERS & SUPPORTS SHALL COMPLY WITH THE REQUIREMENTS ON NFPA 13. INSTALL TEST CONNECTIONS SIZED AND LOCATED IN ACCORDANCE WITH NFPA 13 COMPLETE WITH SHUT-OFF VALVE. TEST CONNECTIONS MAY ALSO SERVE AS DRAIN PIPES.
- FLUSH, TEST AND INSPECT SPRINKLER PIPING SYSTEM IN ACCORDANCE WITH NFPA 13.
- REPLACE PIPING SYSTEM COMPONENTS WHICH DO NOT PASS THE TEST PROCEDURES SPECIFIED, AND RETEST REPAIRED PORTIONS OF THE SYSTEM.
- ALL CEILING SPACES WHICH ARE USED AS PLENUMS IN CONJUNCTION WITH ANY AIR DISTRIBUTION SYSTEM SHALL BE NON-COMBUSTIBLE IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE (IMC) AND SHALL COMPLY WITH IMC SECTION 602, PLENUMS. ALL MATERIAL LOCATED IN CEILING PLENUMS MUST BE NON-COMBUSTIBLE EXCEPT AS PERMITTED BY IMC SECTION 602.2, CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO PIPING, INSULATION, TUBING, CABLES AND THEIR ASSOCIATED SUPPORTS, HANGERS FASTENERS, ETC.
- VIBRATION ISOLATION & SEISMIC RESTRAINTS - 2015 IBC - UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL FIRE PROTECTION EQUIPMENT SHALL BE MOUNTED ON SEISMIC RESTRAINTS AND VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF VIBRATION AND MECHANICALLY TRANSMITTED SOUND TO THE BUILDING STRUCTURE. SEISMIC RESTRAINTS AND VIBRATION ISOLATORS SHALL BE SELECTED IN ACCORDANCE WITH THE SPECIFICATIONS AND ON ACTUAL WEIGHT DISTRIBUTION OF THE EQUIPMENT FURNISHED, SO AS TO PRODUCE REASONABLY UNIFORM DEFLECTION. SEISMIC RESTRAINTS AND VIBRATION ISOLATORS SHALL BE IN STRICT ACCORDANCE WITH 2015 INTERNATIONAL BUILDING CODE. THE MANUFACTURER OF THE VIBRATION AND SEISMIC CONTROL EQUIPMENT WILL DESIGN AND CALCULATE THE VIBRATION ISOLATION AND SEISMIC RESTRAINT TYPES, SIZES, LOCATIONS AND SEISMIC RESTRAINT METHODS, BOOT DIAMETERS, MESSAGING AND WELD LENGTHS BASED ON ACTUAL EQUIPMENT BEING INSTALLED. THIS MANUFACTURER WILL SUBMIT THESE CALCULATIONS STAMPED AND APPROVED BY A PROFESSIONAL ENGINEER AS PART OF THE VIBRATION ISOLATION AND SEISMIC RESTRAINT SHOP DRAWINGS. ALSO SUBMIT A SEISMIC DESIGN ERRORS AND OMISSIONS INSURANCE CERTIFICATE AS PART OF THIS SHOP DRAWING. THE MANUFACTURER WILL PROVIDE INSTALLATION INSTRUCTIONS, DRAWINGS, DETAILS, AND FIELD SUPERVISION.
- SEISMIC PERFORMANCE - SPRINKLER PIPING SHALL WITHSTAND THE EFFECTS OF EARTHQUAKE MOTIONS DETERMINED ACCORDING TO NFPA 13 AND ASCE/SEI 7.
- PROVIDE HOODS AND/OR SHIELDS ABOVE ALL ELECTRICAL EQUIPMENT.
- PROVIDE PERMANENT ENGRAVED STEEL PLACARD CHAINED TO SPRINKLER VALVE WITH HYDRAULIC CALCULATION "BASIS OF DESIGN".
- SPRINKLER CONTRACTOR SHALL MAKE AN ALLOWANCE TO INSTALL A MINIMUM OF 200% ADDITIONAL SPRINKLER HEADS TO BE INSTALLED AS TO PROVIDE ADEQUATE COVERAGE DUE TO ANY MECHANICAL AND/OR ARCHITECTURAL OBSTRUCTIONS, DUCT WORK, PIPING, ETC. INSTALLED DURING CONSTRUCTION WHICH MAY ALTER THE ORIGINAL DESIGN.
- SPRINKLER CONTRACTOR SHALL DESIGN SPRINKLER PIPING TO INCLUDE A 20 PERCENT MARGIN OF SAFETY FOR BOTH AVAILABLE WATER FLOW AND PRESSURE.
- SPRINKLER CONTRACTOR SHALL PROVIDE ALL INSPECTOR'S TEST CONNECTIONS PER NFPA 13 REQUIREMENTS FOR ALL WET PIPE SPRINKLER SYSTEMS.
- PROVIDE SYSTEM DRAINAGE FOR ALL TRAPPED PIPING AREAS ON WET AND DRY SPRINKLER SYSTEM PER NFPA 13.
- PRIOR TO PERFORMING SPRINKLER HYDRAULIC CALCULATIONS, THE SPRINKLER CONTRACTOR SHALL VERIFY WITH THE LOCAL UTILITY COMPANY, ANY MINIMUM FLOW/PRESSURE RESTRICTIONS DUE TO SEASONAL WATER USAGE OR FUTURE BUILDING DEVELOPMENT. FIRE HYDRANT FLOW TEST SHOWN ON DRAWINGS IS PROVIDED FOR THE SOLE PURPOSE OF DETERMINING WHETHER PROJECT REQUIRES A FIRE PUMP. SPRINKLER CONTRACTOR SHALL PROVIDE THEIR OWN FLOW TEST AND COORDINATE INFORMATION WITH LOCAL WATER COMPANY PRIOR TO PERFORMING SPRINKLER HYDRAULIC CALCULATIONS.
- INSTALL SPRINKLERS IN SUSPENDED CEILING IN CENTER OF NARROW DIMENSION OF ACOUSTICAL CEILING PANELS.
- PROVIDE SIDEWALL SPRINKLER HEAD AT BOTTOM OF ELEVATOR PIT AND UPRIGHT HEAD AT TOP OF ELEVATOR HOISTWAY.
- SPRINKLER CONTRACTOR SHALL PROVIDE ALL REQUIRED TESTING OF WATER SUPPLIES FOR POTENTIAL (MIC) MICROBIOLOGICALLY INFLUENCED CORROSION PER NFPA 13 (WATER SUPPLY TREATMENT).
- FLOW TEST CONDUCTED AT FIRE HYDRANT OUTSIDE CENTURY HALL DORMITORY
TEST DATE - 11/14/2016
STATIC PRESSURE - 88 PSI
RESIDUAL PRESSURE - 50 PSI
FLOW - 980 GPM
- THE AUTOMATIC SPRINKLER SYSTEM DESIGN INDICATED ON THESE PLANS IS "FOR REFERENCE ONLY". RELEASE OF THE AUTOMATIC SPRINKLER SYSTEM DESIGN WILL BE CONDITIONAL UPON SUBMITTAL OF SIGNED AND SEALED AUTOMATIC SPRINKLER SYSTEM SHOP DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO DCA PRIOR TO SYSTEM INSTALLATION, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING: (A) SUBMIT MANUFACTURERS SPECIFICATIONS FOR ALL SPRINKLER SYSTEM COMPONENTS INCLUDING: SPRINKLERHEADS, PIPES, FITTINGS, VALVES, GAUGES, PUMPS, BACKFLOW PREVENTION DEVICE, AND TRIM. (B) SUBMIT NOMINAL PIPE SIZE, SCHEDULE, LENGTH, AND CENTERLINE DIMENSIONS. (C) INCLUDE THE TYPE AND LOCATION OF ALFASTENER, HANGERS, AND SWAY BRACING. (D) INDICATE REQUIRED SWAY BRACING ON ALL SPRINKLER RISERS. (E) PROVIDE THE TYPE AND LOCATION OF ALL FITTINGS, JOINTS/WELDS, AND BENDS. (F) CLARIFY TYPE AND TEMPERATURE RATING OF SPRINKLER HEADS. (G) PROVIDE A FIRE PUMP PIPING DETAIL. (H) INCLUDE A FIRE STAMPING DIAGRAM AND CALCULATION. (I) ALL DOCUMENTS PREPARED BY PEOPLE OTHER THAN THE DESIGN PROFESSIONAL SHALL BE REVIEWED BY THE DESIGN PROFESSIONAL AND A SIGNED SEALED LETTER SUBMITTED INDICATING THAT THEY HAVE BEEN REVIEWED AND FOUND TO BE IN CONFORMANCE WITH THE REGULATIONS FOR THE DESIGN OF THE BUILDING PER N.J.A.C. 5:23-2.15(1)(1).
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A NEW JERSEY LICENSED PROFESSIONAL ARCHITECT OF ENGINEER TO SIGN AND SEAL ALL AUTOMATIC SPRINKLER SYSTEM SHOP DRAWINGS AND DOCUMENTS TO BE SUBMITTED BY THE CONTRACTOR TO THE DESIGN PROFESSIONAL FOR REVIEW, REEZE TO SPECIFICATIONS FOR ADDITIONAL AUTOMATIC SPRINKLER SYSTEM SUBMITTAL REQUIREMENTS.
- THE AUTOMATIC SPRINKLER SYSTEM DESIGN INDICATED ON THESE PLANS IS "FOR REFERENCE ONLY". RELEASE WILL BE CONDITIONAL UPON SUBMITTAL OF SIGNED AND SEALED HYDRAULIC DESIGN INFORMATION. THE SUBMITTAL SHALL INCLUDE THE FOLLOWING: (A) SUBMIT MANUFACTURERS SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. (B) INCLUDE A CURRENT WATER FLOW TEST (WITHIN ONE YEAR) INCLUDING LOCATION AND ELEVATION OF STATIC AND RESIDUAL TEST GAUGE WITH RELATION TO THE RISER REFERENCE POINT, FLOW LOCATION, STATIC PRESSURE, RESIDUAL PRESSURE, FLOW (PISTON) PRESSURE, OUTLET SIZE USED, MAKE AND MODEL OF FLOW HYDRANT, HYDRANT COEFFICIENT, WATER MAIN SIZE, TIME AND DATE. PROVIDE DRAWING OR SKETCH OF TEXT AND FLOW HYDRANTS IN RELATION TO PROPOSED SITE. PRESSURE HYDRANT SHALL BE HYDRANT CLOSEST TO CURRENT OF PROPOSED SPRINKLER RISER CONNECTION; FLOW HYDRANT SHALL BE DOWNSTREAM OF THE PRESSURE HYDRANT. SUFFICIENT FLOW HYDRANTS SHALL BE OPERATED TO MAINTAIN A MINIMUM PRESSURE DROP OF 25% AT THE PRESSURE HYDRANT TO INSURE ACCURACY OF THE FLOW TEST RESULTS. AN ADJUSTMENT TO THE WATER FLOW TEST DATA FOR DAILY AND SEASONAL FLUCTUATIONS, POSSIBLE INTERRUPTIONS BY FLOOD OR ICE CONDITIONS, LARGE SIMULTANEOUS INDUSTRIAL USE, FUTURE DEMAND ON WATER SUPPLY SYSTEM, OR ANY OTHER CONDITION THAT COULD AFFECT THE WATER SUPPLY SHALL BE MADE AS APPROPRIATE. (C) INDICATE THE TYPE OF HAZARD AND THE REQUIRED DENSITY. (D) PROVIDE A FLOW AND PRESSURE SUMMARY. (E) INCLUDE A WATER ANALYSIS GRAPH. (F) ALL DOCUMENTS PREPARED BY PEOPLE OTHER THAN THE DESIGN PROFESSIONAL SHALL BE REVIEWED BY THE DESIGN PROFESSIONAL AND A SIGNED AND SEALED LETTER SUBMITTED INDICATING THAT THEY HAVE BEEN REVIEWED AND FOUND TO BE IN CONFORMANCE WITH THE REGULATIONS FOR THE DESIGN OF THE BUILDING PER N.J.A.C. 5:23-2.15(1)(1). (G) HYDRAULIC CALCULATIONS FOR THE AUTOMATIC SPRINKLER SYSTEM SHALL BE SIGNED AND SEALED BY A NEW JERSEY LICENSED PROFESSIONAL ARCHITECT OR ENGINEER.



1 FIRE WATER RISER DIAGRAM
NOT TO SCALE



2 DETAIL OF FLOOR CONTROL VALVE
NOT TO SCALE

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SUBMISSIONS		
NO.	DATE	DESCRIPTION
1	07/14/17	CONSTR. DOCUMENTS
2	08/07/17	FINAL CONSTR. DOCUMENTS
REVISIONS		
1A	AS NOTED	CONSTR. DOC. REVISIONS
2A	AS NOTED	ADDENDUM 1
2B	08/24/17	ADDENDUM 2
2D	09/08/17	ADDENDUM 6

**WILLIAM PATTERSON UNIVERSITY
NEW RESIDENCE HALL**
WAYNE, NEW JERSEY

CONSTRUCTION DOCUMENTS
(ISSUED FOR CONSTRUCTION)

DATE: 2017.08.07

SCALE:

DRAWN BY:

CHECKED BY:

SHEET TITLE:
FIRE PROTECTION GENERAL INFORMATION

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FP-001

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Project Manager
CM

Designed By
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Drafted By
JIC

Checked By
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