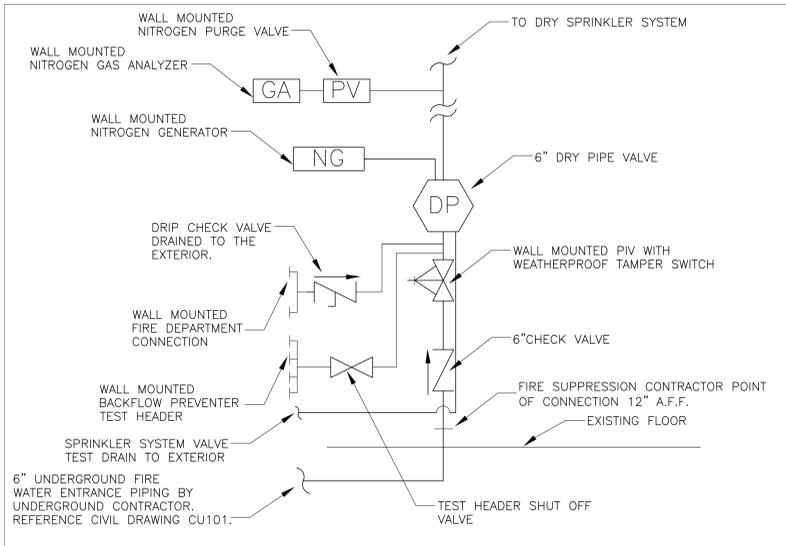
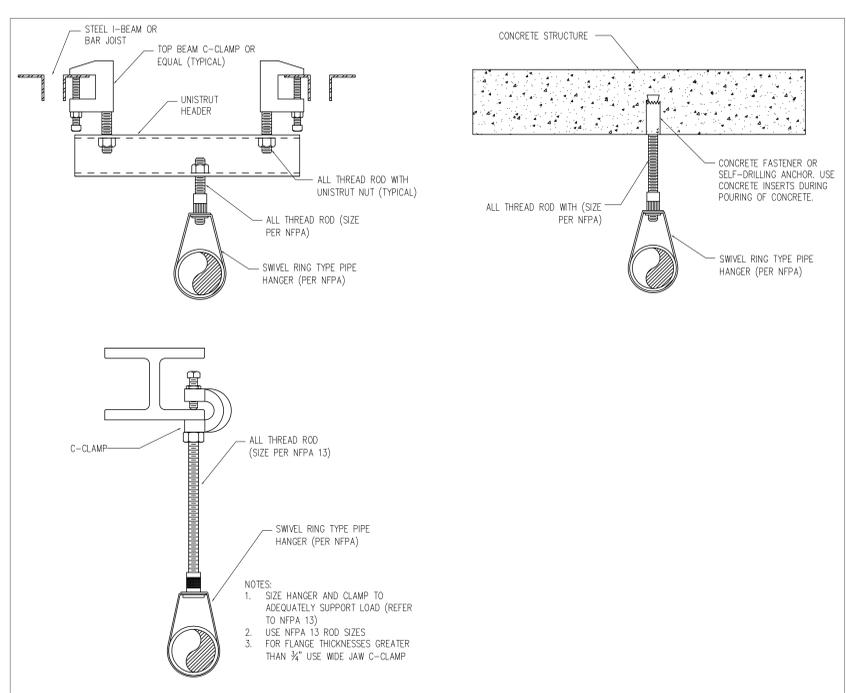


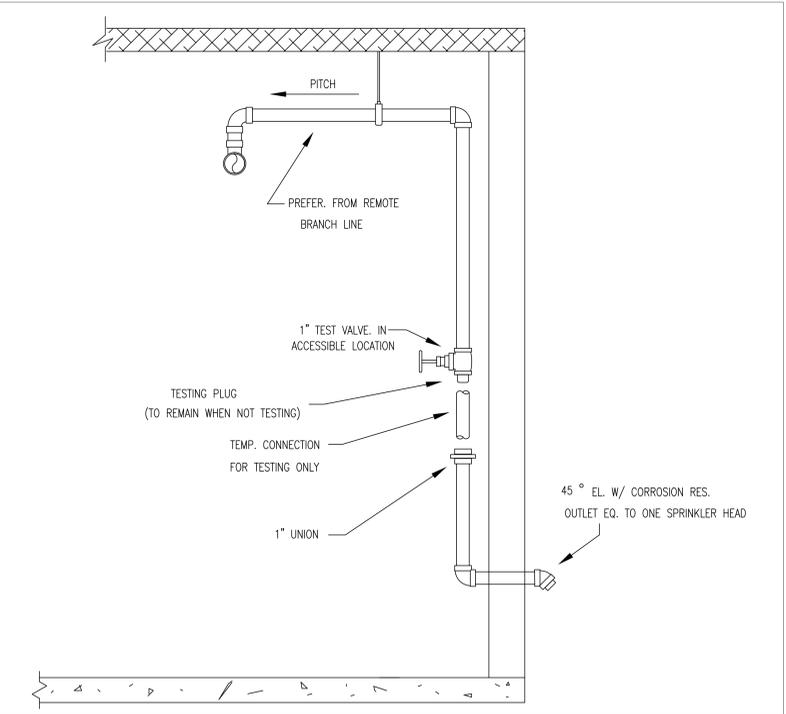
1 SPRINKLER RISER EXTERIOR WALL DETAIL
SCALE: NTS



2 SPRINKLER RISER SCHEMATIC DETAIL
SCALE: NTS



3 TYPICAL PIPE HANGER DETAILS
SCALE: NTS



4 INSPECTOR'S TEST CONNECTION
SCALE: NTS

FIRE SUPPRESSION GENERAL NOTES

1. INSTALLATION OF AUTOMATIC DRY PIPE SPRINKLER SYSTEMS SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE (2015), VA SECURITY DESIGN MANUAL FOR MISSION CRITICAL FACILITIES (2007), VA FIRE PROTECTION DESIGN MANUAL (2011), AND NFPA 13 (2016).
2. AREAS SHOWN TO BE PROTECTED BY THE AUTOMATIC DRY PIPE SPRINKLER SYSTEM SHALL BE FULLY SPRINKLED THROUGHOUT IN ACCORDANCE WITH NFPA 13, INCLUDING ALL COMBUSTIBLE CONCEALED SPACES AND UNDER ALL OBSTRUCTIONS GREATER THAN 4 FEET WIDE INCLUDING, BUT NOT LIMITED TO, DUCTWORK, LIGHT FIXTURES, CABLE TRAY, AND OTHER BUILDING EQUIPMENT.
3. SPRINKLER SYSTEM DESIGN HAZARD CRITERIA INFORMATION IS SHOWN ON FS100 FOR EACH INDIVIDUAL AREA.
4. CONTRACTOR SHALL PERFORM A NEW WATER FLOW TEST TO BE USED AS THE BASIS FOR HYDRAULIC CALCULATIONS. PIPE SIZES MAY BE REDUCED IF REQUIRED PRESSURE AND FLOW CAN BE ACHIEVED AND CONFIRMED THROUGH HYDRAULIC CALCULATIONS INCLUSIVE OF DERATING REQUIRED BY SPECIFICATION 211316.
5. DRY PIPE SPRINKLER SYSTEM SHALL UTILIZE NITROGEN AS A MAINTENANCE GAS SUPPLIED BY A WALL MOUNTED NITROGEN GENERATOR CAPABLE OF PROVIDING A MINIMUM OF 98% NITROGEN CONCENTRATION AND MONITORED BY THE FIRE ALARM SYSTEM. PROVIDE ALL COMPONENTS OF THE SYSTEM FOR COMPLETE INSTALLATION AND TESTING AS REQUIRED BY THE MANUFACTURER AND NFPA 13.
6. SPRINKLER SYSTEM DESIGN INFORMATION SHALL BE DISPLAYED ON A PERMANENT METAL PLATE LOCATED ON THE SPRINKLER SYSTEM RISER.
7. PROVIDE AUXILIARY DRAINS FOR ALL TRAPPED SECTIONS OF PIPE. ROUTE AUXILIARY DRAINS TO THE EXTERIOR.
8. DRY SPRINKLER SYSTEM PIPING SHALL BE PITCHED FOR COMPLETE SYSTEM DRAINAGE. BRANCH LINE PIPING SHALL BE PITCHED AT LEAST 1/2 INCH PER TEN FEET AND MAIN PIPE SHALL BE PITCHED AT LEAST 1/4 INCH PER TEN FEET IN ACCORDANCE WITH NFPA 13.
9. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS REQUIRED FOR THE WORK. CONTRACTOR SHALL SUBMIT DRAWINGS TO LOCAL FIRE AND BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND VA FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
10. DO NOT INSTALL PIPING IN DEDICATED WORKING SPACE AS DEFINED BY NFPA 70 IN ELECTRICAL ROOM AND EMERGENCY GENERATOR ROOM. DO NOT INSTALL PIPING DIRECTLY OVER ELECTRICAL EQUIPMENT.
11. ALL DRY PIPE SPRINKLER SYSTEM EQUIPMENT, INCLUDING BUT NOT LIMITED TO SPRINKLER PIPING, VALVES, FITTINGS, ESCUTCHEONS, HANGERS, AND ASSEMBLIES SHALL BE UL LISTED FOR THEIR INTENDED USE. SPRINKLER HEADS SHALL BE FACTORY MUTUAL (FM) APPROVED.
12. ALL SPRINKLERS AND HANGERS SHALL BE SPACED PER NFPA 13 AND COORDINATED WITH ALL OTHER ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICAL EQUIPMENT. PROVIDE ADDITIONAL HANGERS AS REQUIRED. ALL SPRINKLER PIPING SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE.
13. MINIMUM PIPE SCHEDULE SHALL BE SCHEDULE 40, BLACK STEEL PIPE WITH THREADED ENDS FOR PIPE 2 INCHES OR SMALLER AND SCHEDULE 10, BLACK STEEL PIPE WITH ROLL-GROOVED ENDS FOR PIPE 2.5 INCHES OR LARGER.
14. DRAWINGS ARE SCHEMATIC IN NATURE AND ARE INTENDED TO SPECIFY BASIC DESIGN PARAMETERS. DRAWINGS SHOW APPROXIMATE PIPE SIZE. SPRINKLER CONTRACTOR IS RESPONSIBLE FOR HYDRAULICALLY CALCULATING THE SPRINKLER SYSTEM BASED ON THE AREA DENSITY METHOD PER NFPA 13.
15. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL SLEEVES REQUIRED FOR ALL AND SLAB PENETRATIONS. FIRESTOP PENETRATIONS THROUGH ALL FIRE RESISTANCE RATED ASSEMBLIES WITH APPROVED MATERIALS IN ACCORDANCE WITH ASTM E-184. ALL FIRE STOPPING MATERIALS SHALL BE PROVIDED BY HILTI, INC.
16. ALL PIPING SHALL BE HYDRAULICALLY TESTED IN ACCORDANCE WITH NFPA 13 AT NO LESS THAN 200 PSI OR 50 PSI IN EXCESS OF SYSTEM WORKING PRESSURE, WHICHEVER IS HIGHER, FOR 2 HOURS.
17. ALL VALVES AND PRESSURE SWITCHES SHALL BE SUPERVISED BY THE FIRE ALARM SYSTEM. COORDINATE WITH FIRE ALARM CONTRACTOR.
18. UL LISTED HEAD GUARDS SHALL BE PROVIDED ON ALL EXPOSED SPRINKLERS INSTALLED THAT ARE SUBJECT TO MECHANICAL DAMAGE.
19. ROUTE DRAIN PIPE FOR SPRINKLER RISER AND TEST CONNECTION TO THE BUILDING EXTERIOR TO FACILITATE TESTING. DO NOT TERMINATE INSIDE THE BUILDING. DRAIN PIPING SHALL BE 2 INCH MINIMUM TO ACCOMMODATE DISCHARGE FROM FULL FLOW TESTING AT MAXIMUM SYSTEM PRESSURE. LOCATE EXTERIOR DRAIN TO PREVENT FLOODING OR DAMAGE TO LANDSCAPING, AND TO PREVENT WETTING OF WALKWAYS.
20. FIRE DEPARTMENT CONNECTION THREAD TYPE SHALL BE COORDINATED WITH LOCAL FIRE DEPARTMENT.

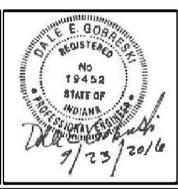
FIRE SUPPRESSION LEGEND

- 8" D.I. UNDERGROUND FIRE WATER SERVICE MAIN (BY UNDERGROUND CONTRACTOR)
- 6" D.I. UNDERGROUND FIRE WATER SERVICE ENTRANCE PIPING (BY UNDERGROUND CONTRACTOR)
- NEW INTERIOR DRY PIPE SPRINKLER MAIN PIPING (BY SUPPRESSION CONTRACTOR)
- NEW WALL MOUNTED PIV VALVE WITH WEATHER PROOF TAMPER SWITCH
- NEW FLUSH FIRE DEPARTMENT CONNECTION
- NEW 6" DRY PIPE SPRINKLER RISER (PLAN VIEW)
- NEW WALL MOUNTED NITROGEN GENERATOR
- NEW WALL MOUNTED NITROGEN GAS ANALYZER
- NEW WALL MOUNTED NITROGEN PURGE VALVE ASSEMBLY
- NEW SPRINKLER SYSTEM ISOLATION VALVE WITH TAMPER SWITCH

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one-quarter inch = one foot

Revisions:	Date
100% BID DOCUMENTS FOR CONSTRUCTION	09/23/2016

DEVELOPER/CONTRACTOR:



ARCHITECT/ENGINEERS:

URS
One Indiana Square, Suite 2100
Indianapolis, IN 46204
United States
P: 317 532 5400
F: 317 532 5499
www.URScorp.com

PROJECT PRINCIPAL	STEVE ROBINSON
PROJECT MANAGER	MELISSA COX
PROJECT ARCHITECT	TOMY ELLIOTT
LANDSCAPE ARCHITECT	STACEY PAUL
STRUCTURAL ENGINEER	DAVE STEK
MECHANICAL ENGINEER	CASSANDRA DALLER
PLUMBING ENGINEER	CASSANDRA DALLER
ELECTRICAL ENGINEER	MARK FIFER

DATE: 9/23/2016

Drawing Title
FIRE SUPPRESSION GENERAL NOTES AND DETAILS

Approved:

Project Title
INSTALL PRIMARY AND EMERGENCY POWER SYSTEMS

Project Number
583-15-102 2FY15

Building Number
22

Location
INDIANAPOLIS, INDIANA

Date
09/23/2016

Checked
SJV

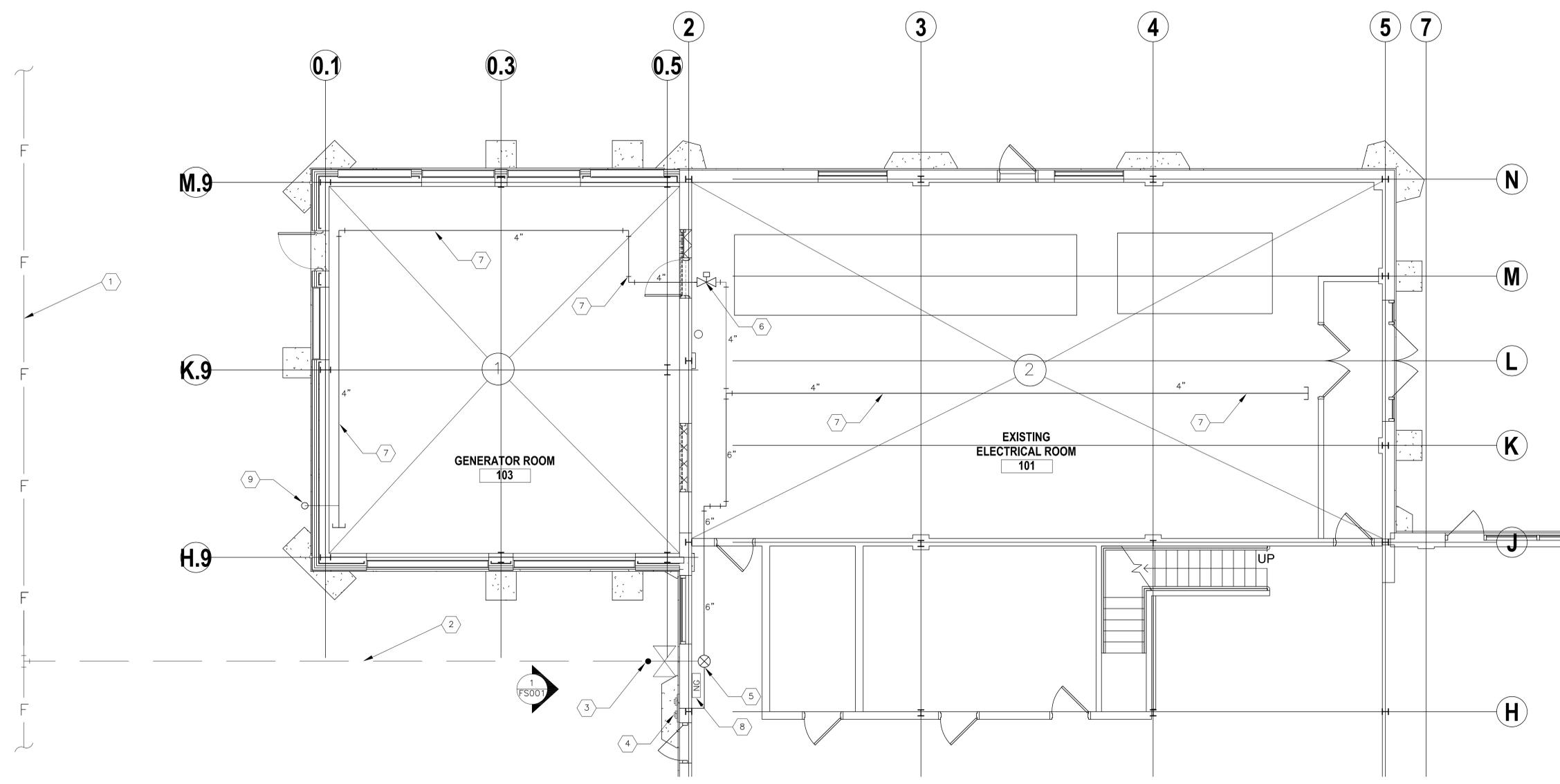
Drawn
SDP

Drawing Number
FS001



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 one-quarter inch = one foot
 one-half inch = one foot
 three-eighths inch = one foot
 one-eighth inch = one foot
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 three-quarters inch = one foot
 one inch = one foot
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 two inches = one foot
 three inches = one foot

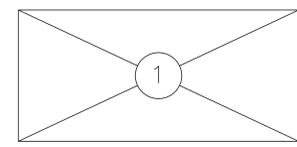


GENERAL NOTES

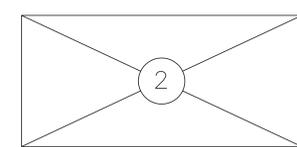
A. REFERENCE DRAWING FS001 FOR FIRE SUPPRESSION LEGEND, GENERAL NOTES, AND DETAILS.

SHEET KEY NOTES

- ① 8 INCH DUCTILE IRON FIRE LOOP BY UNDERGROUND CONTRACTOR. REFERENCE UTILITY PLAN DRAWING CU101 FOR CONTINUATION AND REQUIREMENTS.
- ② NEW 6" DUCTILE IRON UNDERGROUND FIRE WATER FEED TO NEW DRY PIPE SPRINKLER SYSTEM RISER. UNDERGROUND CONTRACTOR TO PROVIDE 6" STUB UP TO 1'-0" ABOVE FINISHED FLOOR. FIRE SUPPRESSION CONTRACTOR WORK BEGINS AT STUB UP FLANGE. REFERENCE CIVIL DRAWING CU101.
- ③ NEW 6" WALL TYPE POST INDICATOR VALVE TO CONTROL INCOMING FIRE WATER MAIN. VALVE SHALL INCLUDE A WEATHERPROOF TAMPER SWITCH TO BE MONITORED BY THE FIRE ALARM SYSTEM.
- ④ NEW 6"x 2-1/2" X 2-1/2" FLUSH FIRE DEPARTMENT CONNECTION WITH DRIP CHECK VALVE. REFERENCE RISER DETAIL 2/FS001. CONTRACTOR SHALL COORDINATE THREAD TYPE WITH LOCAL FIRE DEPARTMENT.
- ⑤ NEW 6" DRY PIPE SPRINKLER RISER ASSEMBLY WITH DRY PIPE VALVE, CHECK VALVE, AND PRESSURE SWITCHES MONITORED BY THE FIRE ALARM SYSTEM. REFERENCE RISER DETAIL 2/FS001.
- ⑥ GENERATOR ROOM ISOLATION VALVE COMPLETE WITH TAMPER SWITCH TO BE MONITORED BY THE FIRE ALARM SYSTEM.
- ⑦ 4" DRY PIPE SPRINKLER MAIN PIPING. PIPE ROUTING IS SHOWN IN AN APPROXIMATE LOCATION. CONTRACTOR SHALL NOT INSTALL SPRINKLER PIPING DIRECTLY OVER ELECTRICAL PANELS, TRANSFORMERS, SUBSTATIONS, SWITCHGEAR, GENERATORS, AND ASSOCIATED EQUIPMENT. CONTRACTOR SHALL COORDINATE ROUTING OF SPRINKLER MAIN PIPING WITH ALL EQUIPMENT AND OTHER TRADES.
- ⑧ WALL MOUNTED PRE-ENGINEERED NITROGEN GENERATOR CABINET, GAS ANALYZER, AND PURGE VALVE ALL MONITORED BY THE FIRE ALARM SYSTEM. REFERENCE DRY PIPE SPECIFICATION SECTION 211316 AND ELECTRICAL DRAWING EP101 FOR DEDICATED 120V POWER CIRCUIT REQUIREMENTS. CONTRACTOR SHALL COORDINATE POWER CONNECTIONS WITH ELECTRICAL CONTRACTOR.
- ⑨ DRY SYSTEM INSPECTOR'S TEST CONNECTION PIPED TO THE EXTERIOR. REFERENCE DETAIL 4/FS001.



DRY PIPE SPRINKLER SYSTEM
 EXTRA HAZARD GROUP 1
 DENSITY: MINIMUM 0.30 GPM/SQFT
 DESIGN DISCHARGE AREA: 2,438 SQFT
 HOSE STREAM ALLOWANCE: 500 GPM FOR 90-120 MINUTES
 SPRINKLERS: UPRIGHT/PENDENT, HIGH TEMPERATURE RATED



DRY PIPE SPRINKLER SYSTEM
 ORDINARY HAZARD GROUP 2
 DENSITY: MINIMUM 0.20 GPM/SQFT
 DESIGN DISCHARGE AREA: 1,950 SQFT
 HOSE STREAM ALLOWANCE: 250 GPM FOR 60-90 MINUTES
 SPRINKLERS: UPRIGHT/PENDENT, ORDINARY TEMPERATURE



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100% BID DOCUMENTS FOR CONSTRUCTION 09/23/2016 Revisions: _____ Date _____		DEVELOPER/CONTRACTOR: 		ARCHITECT/ENGINEERS: URS One Indiana Square, Suite 2100 Indianapolis, IN 46204 United States P: 317 532 5400 F: 317 532 5499 www.URScorp.com	PROJECT PRINCIPAL: STEVE ROBINSON PROJECT MANAGER: MELISSA COX PROJECT ARCHITECT: TONY ELLIOTT LANDSCAPE ARCHITECT: STACEY PAUL STRUCTURAL ENGINEER: DAVE STEK MECHANICAL ENGINEER: CASSANDRA DALLER PLUMBING ENGINEER: CASSANDRA DALLER ELECTRICAL ENGINEER: MARK FIFER	Drawing Title: FIRST FLOOR FIRE SUPPRESSION PLAN	Project Title: INSTALL PRIMARY AND EMERGENCY POWER SYSTEMS	Project Number: 583-15-102 2FY15
			Approved: _____ Date: 09/23/2016		Location: INDIANAPOLIS, INDIANA	Building Number: 22	Drawing Number: FS100	