

GENERAL NOTES

1. THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED AND INSTALLED AS PER APPLICABLE NFPA CODES, LOCAL CODES, ALL AUTHORITIES HAVING JURISDICTION AND INFORMATION PROVIDED ON THESE DOCUMENTS. THE COMPLETE SYSTEM WITH ALL HAVING JURISDICTION & CONTRACTING OFFICER.
2. CHANGING, FITTINGS AND ACCESSORIES REQUIRED FOR AN APPROVED SYSTEM. THE UNDERGROUND PIPING SHALL BE INSTALLED AS PER NFPA 13-2007 AND NFPA 13-2007. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATION, BACK FILLING, REPAIR OF EXISTING CONCRETE WALKWAYS, CONCRETE CURBS, MODULAR WORK, AND ALL REPAIR WORK TO MATCH EXISTING FINISHES AND MATERIALS.
3. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES FOR INTERFERENCE BEFORE COMMENCING THE INSTALLATION. ALL EXPOSED PIPES SHALL BE AS HIGH AS POSSIBLE TO THE CEILING OR IF RUN ALONG THE WALL, SHALL BE KEPT HIGH AND TIGHT TO THE WALL TO AVOID ANY PERSONAL INJURY. FINAL PIPE LOCATION MUST BE APPROVED BY ARCHITECT.
4. AT FLOOR SLABS FOR PIPE PENETRATION THRU WALLS AND/OR SLABS, ALL SPACING BETWEEN PIPING AND PENETRATION WITH ALL PENETRATION FIRE STOP SYSTEMS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND COMPLY WITH ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
5. PIPING AS SHOWN IS DISASSEMBLY AND THE PIPE LOCATION SHOWN MAY NOT BE FINAL DUE TO COORDINATION WITH OTHER TRADES. FINAL PIPE LOCATION SHALL BE DETERMINED IN THE FIELD AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL REQUIRED CHANGES AT NO EXTRA COST. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND COORDINATE WITH ARCHITECT FOR EXACT LOCATION OF PIPE, SPRINKLERS AND FIRE EQUIPMENT.
6. ALL DRAWS SHALL BE DISCHARGED TO OUTSIDE THE BUILDING OR TO FLOOR DRAINS. PROVIDE DRAINS AT ALL LOW POINTS AS PER NFPA 13-2007. ALL DRAINS SHALL BE DISCHARGED TO AN APPROVED LOCATION.
7. CUTTING, PATCHING AND REPAIR WORK IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
8. CONTRACTORS TO COORDINATE SPRINKLER LOCATION WITH LIGHTS, DUCTS AND OTHER OBSTRUCTIONS AS PER NFPA 13-2007 AND PROVIDE ADDITIONAL SPRINKLERS AS REQUIRED. PROVIDE SPRINKLERS UNDER DUCT AS PER NFPA 13-2007.
9. GUARDS AND SHIELDS ON SPRINKLERS SHALL BE PROVIDED AS PER NFPA 13-2007. PROVIDE SPRINKLERS UNDER DUCT WHERE REQUIRED AS PER NFPA 13-2007.
10. SPRINKLERS INDICATED ARE FOR GENERAL ARRANGEMENT ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION. SPRINKLER LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR, AT HIS OPTION, MAY PROVIDE A TRIED GRID OR LOOP SYSTEM, PROVIDED THE REQUIREMENTS OF THE DESIGN CRITERIA ARE MET.
11. SPRINKLERS SHALL BE LOCATED IN CENTER OF TILE OF 2'x2' OR 2'x4' CEILING TILE.
12. PROVIDE STANDARD METAL SIGNS AND IDENTIFICATION IN ACCORDANCE WITH NFPA 13-2007 AND AHJ'S.
13. ON BASIS OF DESIGN FOR ALL VALVES SHALL BE APOLLO VALVES BY COMBRACO INDUSTRIES.

DESIGN CRITERIA







1. THE FIRE PROTECTION SYSTEM SHALL BE HYDRAULICALLY CALCULATED AS PER NFPA 13-2007, ALL AUTHORITIES HAVING JURISDICTION & OWNER'S INSURANCE COMPANY.
2. CONTRACTOR MAY REDUCE THE SYSTEM AREA OF OPERATION WITHOUT REVISING DENSITY AS PER NFPA 13-2007, SECTION 11.2.3.2.3.
3. LIGHT HAZARD OCCUPANCY:
 - 3.1. SPACES: SEE DRAWINGS FOR SPACES.
 - 3.2. DENSITY: 0.10 GPM/SQ. FT. FOR MOST REMOTE AREA OF 1,500 SQ. FT. AS PER NFPA 13 (DENSITY/AREA METHOD).
 - 3.3. SPRINKLER COVERAGE: 225 SQ. FT. MAXIMUM OR AS SHOWN ON DRAWINGS.
4. ORDINARY HAZARD OCCUPANCY GROUP I:
 - 4.1. SPACES: SEE DRAWINGS FOR SPACES.
 - 4.2. DENSITY: 0.15 GPM/SQ. FT. FOR MOST REMOTE AREA OF 1,500 SQ. FT. AS PER NFPA 13 (DENSITY/AREA METHOD).
 - 4.3. SPRINKLER COVERAGE: 190 SQ. FT. MAXIMUM OR AS SHOWN ON DRAWINGS.
5. ORDINARY HAZARD OCCUPANCY GROUP II:
 - 5.1. SPACES: SEE DRAWINGS FOR SPACES.
 - 5.2. DENSITY: 0.20 GPM/SQ. FT. FOR MOST REMOTE AREA OF 1,500 SQ. FT. AS PER NFPA 13 (DENSITY/AREA METHOD).
 - 5.3. SPRINKLER COVERAGE: 160 SQ. FT. MAXIMUM OR AS SHOWN ON DRAWINGS.
6. THERE MAY BE MORE THAN ONE "MOST DEMANDING AREA" ON A FLOOR. SUBMIT HYDRAULIC CALCULATIONS FOR EACH MOST DEMANDING AREA TO DETERMINE THE PIPE SIZES.
7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TESTS REQUIRED TO DETERMINE AVAILABLE WATER PRESSURE AND FLOW AT EACH BUILDING. SPRINKLER SYSTEM SIZING IS BASED ON AN ASSUMED PRESSURE AVAILABLE AT BUILDING ENTRANCE AND IS NOTED ON DRAWINGS AND CALCULATIONS. CONTRACTOR SHALL VERIFY IF REQUIRED PRESSURE IS AVAILABLE.
8. PIPE SHALL BE BLACK STEEL PIPE AS PER NFPA 13-2007. MAXIMUM VELOCITY IN PIPE SHALL BE 20 FT./SEC.
 - 8.1. 2" AND SMALLER = SCH. 40 PIPE
 - 8.2. 2-1/2", 3", 4", & 6" = SCH. 40 PIPE
 - 8.3. 8" AND LARGER = SCH. 30 PIPE
9. A MINIMUM OF 10 PSI CUSHION SHALL BE PROVIDED BETWEEN WATER SUPPLY AND SPRINKLER DEMAND. (INCLUDING HOSE DEMAND)
10. INSIDE AND OUTSIDE HOSE ALLOWANCE (NOTED AT POINT OF CONNECTION TO CITY WATER SUPPLY):
 - 10.1. LIGHT HAZARD = 100 GPM FOR 30 MINUTES
 - 10.2. ORDINARY HAZARD = 250 GPM FOR 60 MINUTES
 - 10.3. EXTRA HAZARD = 500 GPM FOR 90 MINUTES
11. SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE PREPARED BY THIS CONTRACTOR AND SHALL BE SUBMITTED TO ALL AUTHORITIES HAVING JURISDICTION AND CONTRACTING OFFICER. SHOP DRAWINGS SHALL BE SUBMITTED FOR ENGINEER'S REVIEW PRIOR TO FABRICATION OF ALL MATERIALS OR STARTING ANY WORK. SHOP DRAWINGS SHALL COMPLY WITH NFPA 13-2007, CHAPTER 22 PLANS AND CALCULATIONS. SUBMIT SHOP DRAWINGS WITH REFLECTED CEILING PLAN IN AREAS HAVING SUSPENDED CEILING INDICATING LOCATION OF SPRINKLERS, LIGHTS, DIFFUSERS AND OTHER EQUIPMENT. FOR AREAS SHOWN WITH REFLECTED CEILING LOCATION, INDICATE BEAMS, COLTS, AND PILING ETC. WITH ALL ELEVATIONS PROVIDED. LOCATION OF SPRINKLERS SHALL COMPLY WITH NFPA 13-2007.
12. THE SPRINKLER CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND PROVIDE NECESSARY "STATUS" (PROFESSIONAL, CONSUMER) ON SHOP DRAWINGS.





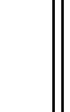
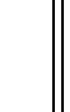
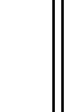
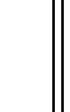








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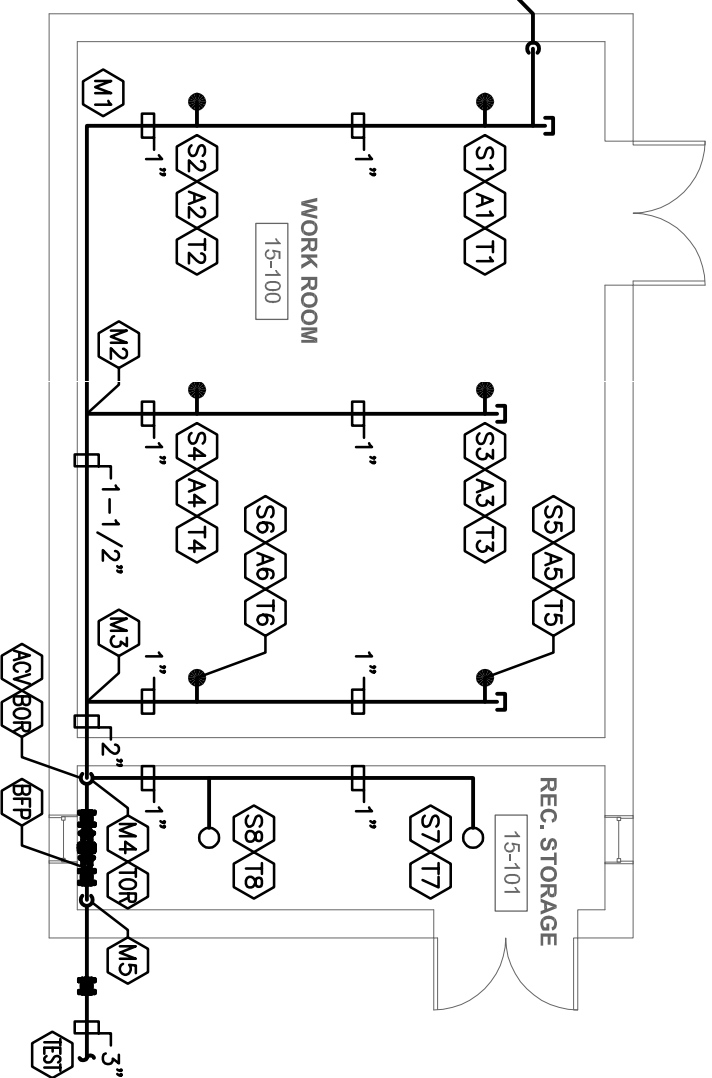
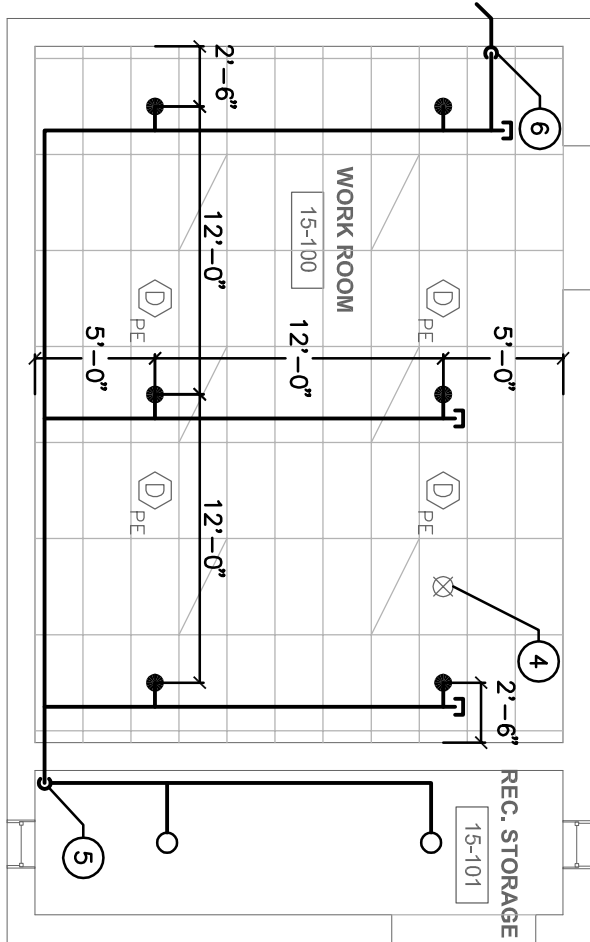
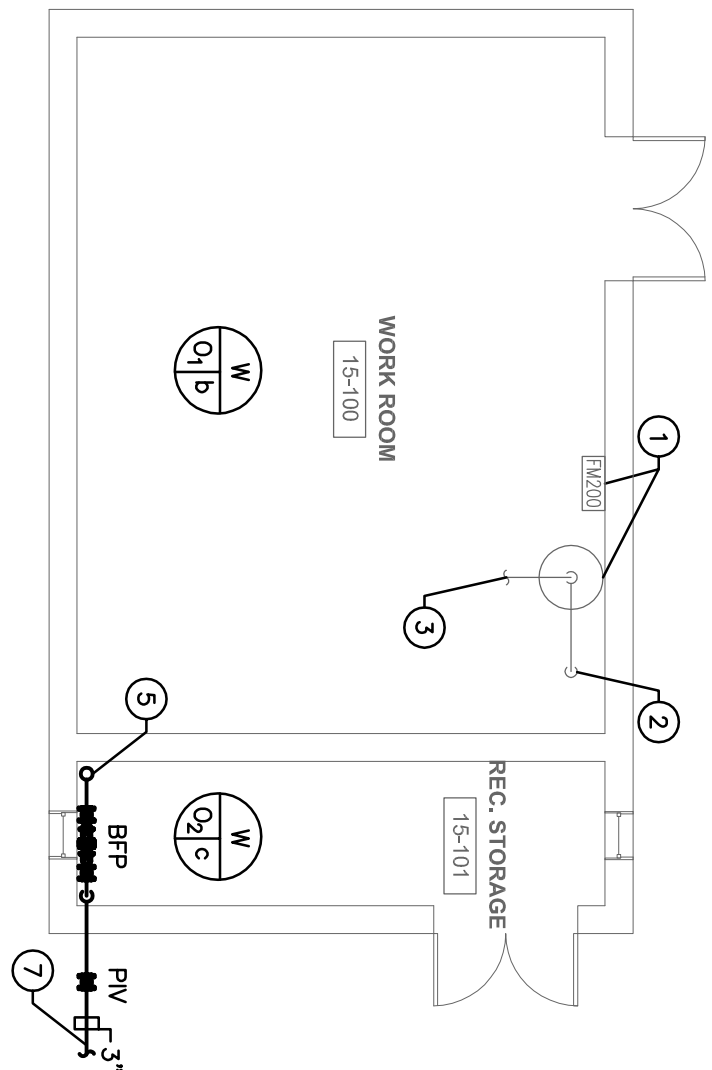
SYMBOLS AND ABBREVIATIONS

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|---|---|
| N.C. | NORMALLY CLOSED |
| SPKR. | SPRINKLER |
| T.S. | TAMPER SWITCH |
| FD | FLOOR DRAIN |
| BFP | BACKFLOW PREVENTER |
| P/V | POST INDICATOR VALVE |
|  | SWING CHECK VALVE |
|  | OS&Y GATE VALVE W/ TAMPER SWITCH |
| ● | RECESSED PENDENT SPRINKLER, BRASS FINISH, SR TYPE, FUSIBLE LINK, K-5.6, SPRINKLER TEMP. 165°F, W/ SPRINKLER GUARD (SIMILAR TO VIKING MODEL-SIN # VK110) |
| ○ | UPRIGHT SPRINKLER, BRASS FINISH, OR TYPE, FUSIBLE LINK, K-5.6, SPRINKLER TEMP. 165°F, W/ SPRINKLER GUARD (SIMILAR TO VIKING MODEL-SIN # VK301) |
|  | NEW TO EXISTING CONNECTION |
|  | HYDRAULIC REFERENCE POINT |
|  | FLOW SWITCH |
|  | PRESSURE GAUGE |

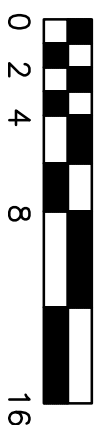
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SYSTEM TYPE		SYMBOL		SYSTEM TYPE		SYMBOL	
	ORDINARY HAZARD GROUP I		O 1		O 2		O 2
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	ORDINARY HAZARD GROUP II		O 2		O 2		O 2
SYSTEM TYPE		SYMBOL		SYSTEM TYPE		SYMBOL	
	ORDINARY HAZARD GROUP II		O 2		O 2		O 2

KEY NOTES:

- ① EXISTING 265 LB. CHEM-TURN FM200 CLEAN AGENT CYLINDER AND RELIEFING PANEL.
- ② EXISTING FM200 SPRING DN. TO DISCHARGE NOZZLE LOCATED BEHIND BASED FLOOR.
- ③ EXISTING FM200 PIPING TO DISCHARGE NOZZLE LOCATED IN ACT CEILING. REFER TO RCP FOR NOZZLE LOCATION.
- ④ EXISTING FM200 DISCHARGE NOZZLE TO REMAIN.
- ⑤ 2" SPRINKLER MAN DN. TO ALARM CHECK VALVE. (VALVE SHALL BE SIMILAR TO KIRKING MODEL #H-1-1).
- ⑥ INSPECTOR'S TEST STATION. DROP DN. ALONG WALL, PENETRATE EXISTING WALL, AND DISCHARGE TO GRADE.
- ⑦ MINIMUM PRESSURE REQUIRED AT CONNECTION TO SITE. MAN IS APPROXIMATELY 45 PSI.

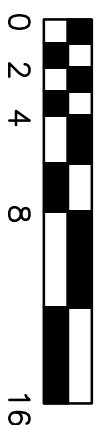


2 BLDG. 15 - FIRE SUPPRESSION



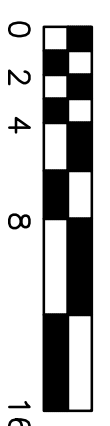
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BLDG. 15 - FIRE SUPPRESSION

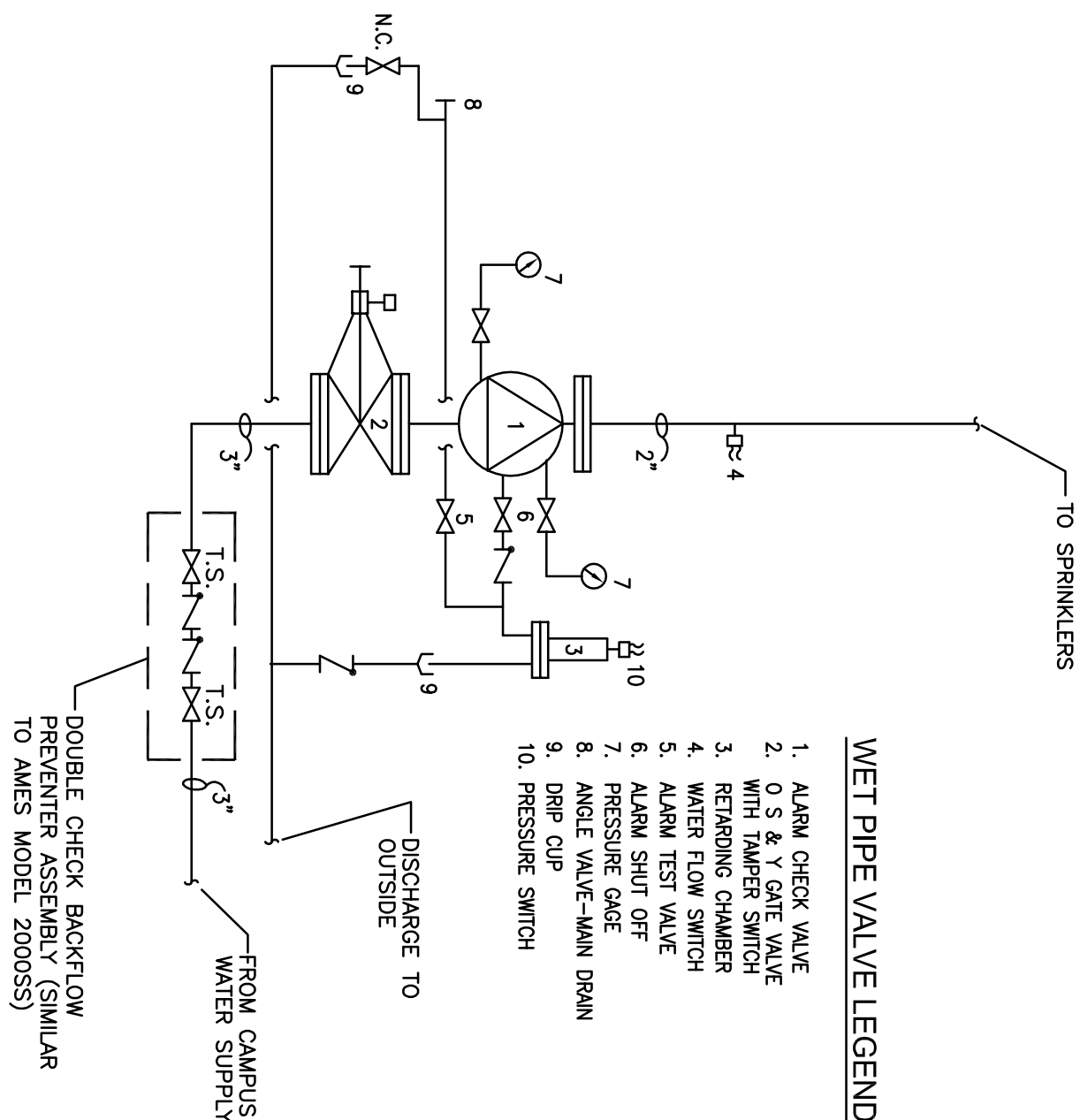


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4 BLDG. 15 - FIRE SUPPRESSION



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KEY PLAN

1 ALARM CHECK VALVE DIAGRAM



FIRE SUPPRESSION

Drawing Title FIRE SUPPRESSION FLOOR PLANS		Project Title ALTOONA, PA VA MEDICAL CENTER UPDATES	
Project Manager:		Location James E. Van Zandt VA Medical Center	
Date 10/28/2011	BID SET		

Project Number 2011200182.000	Building Numbers 1,3,8,11,15,16	Drawing Number FX101
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**Department of
Veterans Affairs**