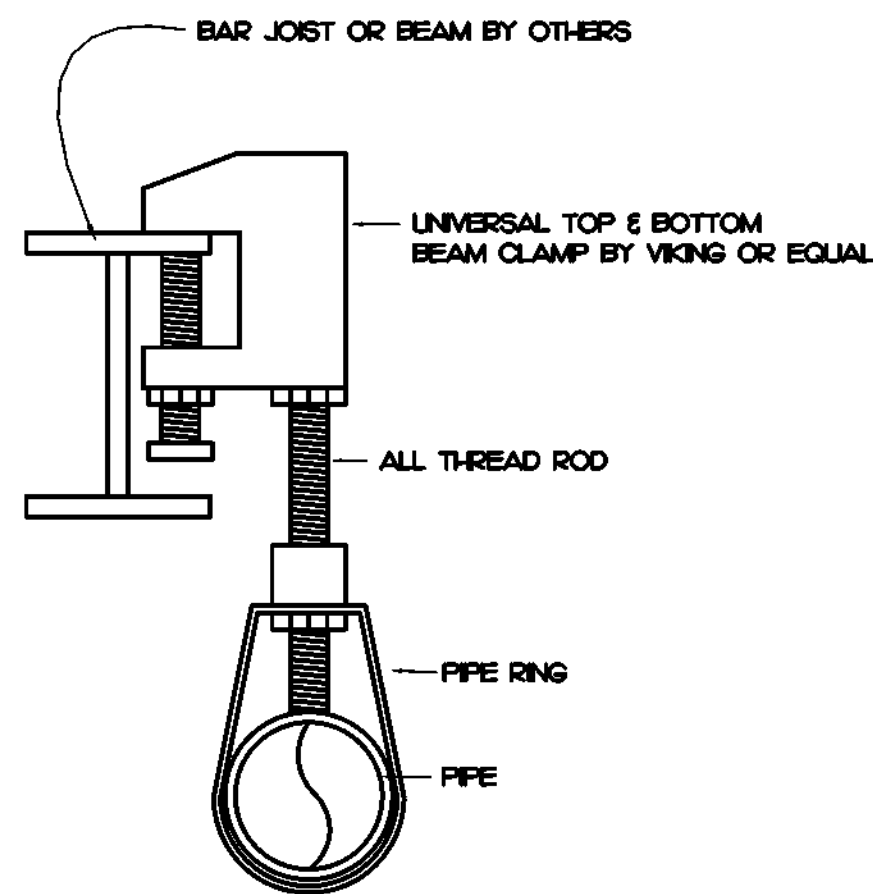


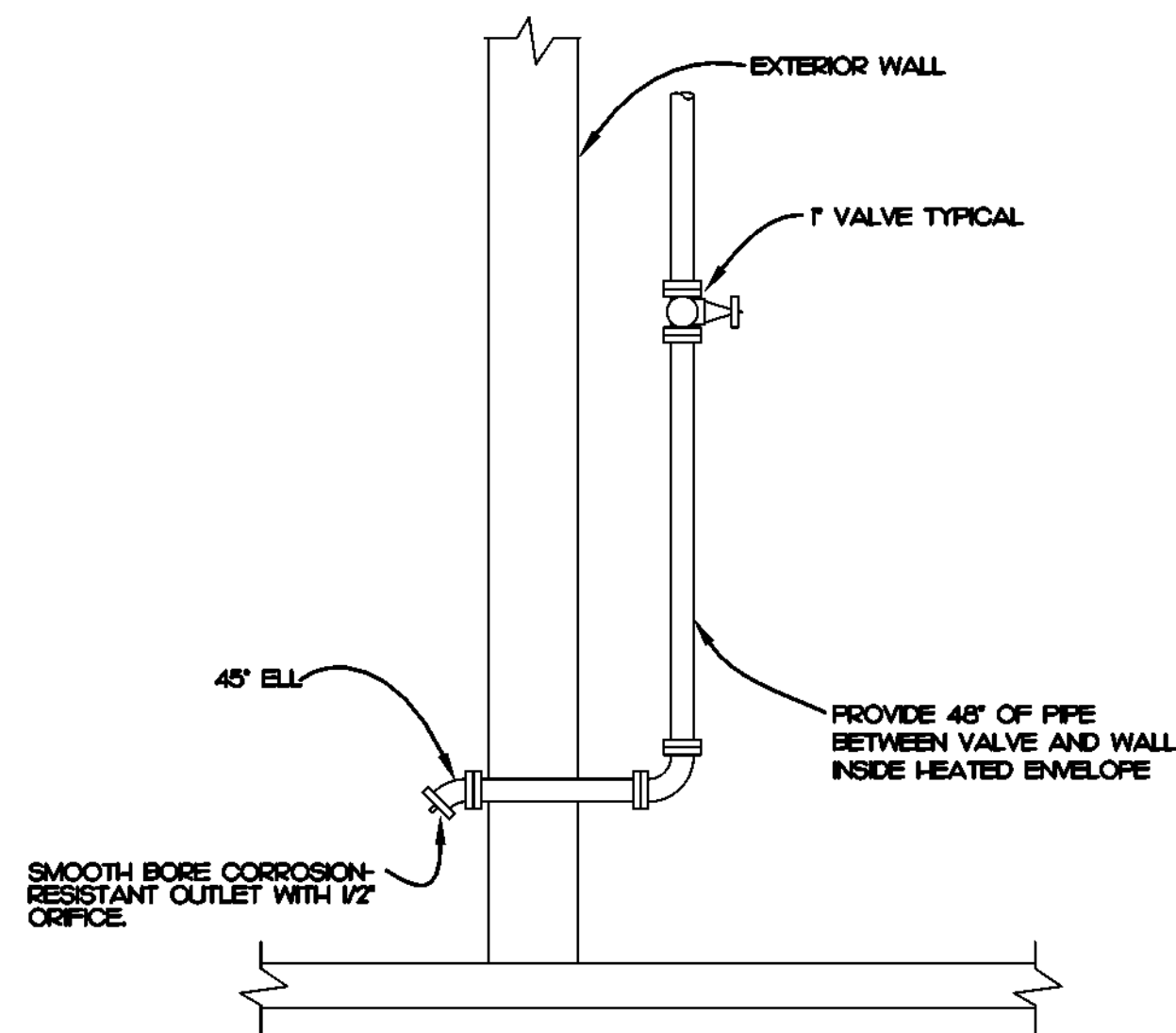
SPRINKLER DESIGN DATA										
PROJECT NAME: GOVERNOR MOREHEAD SCHOOL SPRINKLER FOR DORMS A, B, & D						SYSTEM: WET				
PROJECT STREET ADDRESS: RALEIGH, NC						SYSTEM SQ. FT.: 57,024				
SUITE:						CEILING HEIGHT: VARIES				
DESIGNED BY: ATLANTEC ENGINEERS						PHONE: 919-571-1111		TOTAL BLDG. HGT: 44'-0"		
						HAZARD: LIGHT HAZARD, ORDINARY HAZARD GROUP 1				
DESIGN SUMMARY										
	SYSTEM #1	SYSTEM #2	SYSTEM #3	SYSTEM #4	SYSTEM #5	SYSTEM #6	SYSTEM #7	SYSTEM #8	SYSTEM #9	
DESIGN METHOD	CALC'D	CALC'D	CALC'D	CALC'D	CALC'D	CALC'D	CALC'D	CALC'D	CALC'D	
SYSTEM ID. #										
LOCATION	SECOND FLOOR (A)	FIRST FLOOR MICH (A)	SECOND FLOOR BY CRYPT (A)	SECOND FLOOR (A)	FIRST FLOOR MICH (B)	SECOND FLOOR BY CRYPT (B)	SECOND FLOOR (A)	FIRST FLOOR MICH (B)	SECOND FLOOR BY CRYPT (B)	
TYPE OF SYS.	WET	WET	WET	WET	WET	WET	WET	WET	WET	
HAZARD CLASS	LIGHT HAZARD	ORDINARY GP1	LIGHT HAZARD	LIGHT HAZARD	ORDINARY GP1	LIGHT HAZARD	LIGHT HAZARD	ORDINARY GP1	LIGHT HAZARD	
CRITERIA FROM	NFPA 13	NFPA 13	NFPA 13	NFPA 13	NFPA 13	NFPA 13	NFPA 13	NFPA 13	NFPA 13	
DESIGN AREA	1500 SQFT	1500 SQFT	1500 SQFT	1500 SQFT	1500 SQFT	1500 SQFT	1500 SQFT	1500 SQFT	1500 SQFT	
SPACING	225 SQFT	130 SQFT	EXTENDED	225 SQFT	130 SQFT	EXTENDED	225 SQFT	130 SQFT	EXTENDED	
DENSITY	0.1	0.15	0.1	0.1	0.15	0.1	0.1	0.15	0.1	
K-FACTOR	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	
HOSE ALLOWANCE	100	250	100	100	250	100	100	250	100	
REQUIREMENTS										
G.P.M. REQ'D.										
P.S.I. REQ'D.										
NO. #										
SAFETY FACTOR										
G.P.M.										
P.S.I.										
WATER SUPPLY INFORMATION										
TESTED BY	ANDREW KING ENGINEERING, PLLC		DATE/TIME	5/29/24		9:15 AM		PRESSURE HYDRANT	495'	
HYDRANT ELEVATION	350'		FLOW HYDRANT					STATIC		
STATIC	56 PSI		RESIDUAL	40 PSI				FLOW	1094 GPM	
COPY OF WATER TEST DATA INCLUDED W/CALCS ARE REQUIRED										
FIRE PUMP DATA										
RATED G.P.M.	N/A		RATED PRESSURE	N/A		DIESEL HP.		N/A		
ELECTRIC VOLTS	N/A		BOOST PRESSURE	N/A		DISCHARGE FLOW		N/A		
RESIDUAL(PSI)	N/A		FLOW (GPM)	N/A		COMBINED GPM		N/A		
COMBINED STATIC	N/A		COMBINED RESIDUAL	N/A		SUCTION NODE	N/A	DISCHARGE NODE	N/A	
IF STORAGE IS GREATER THAN 12' COMPLETE COMMODITY STORAGE DESIGN INFO.										
COMMODITY DESCRIPTION			N/A		STORAGE TYPE (RACK, BIN)			N/A		
COMMODITY CLASS			N/A		STORAGE HEIGHT			N/A		
STABLE/UNSTABLE			N/A		OPEN/CLOSE ARRAY			N/A		
					WET/DRY SYSTEM					
FIGURE#	CURVE#	AREA	DENSITY	HEIGHT FACTOR	CLEAR FACTOR	ARRAY FACTOR	DRY PENALTY	DESIGN	MINIMUM DESIGN	FINAL DESIGN
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INITIAL										
SECOND										
-ARY										

NOTES:
1. ALLOW AREA REDUCTION PER NFPA 13 SECTION 19.2.3.23 WHERE APPLICABLE. NEW DESIGN AREA SHALL BE BASED ON FIGURE 19.2.3.23.1.



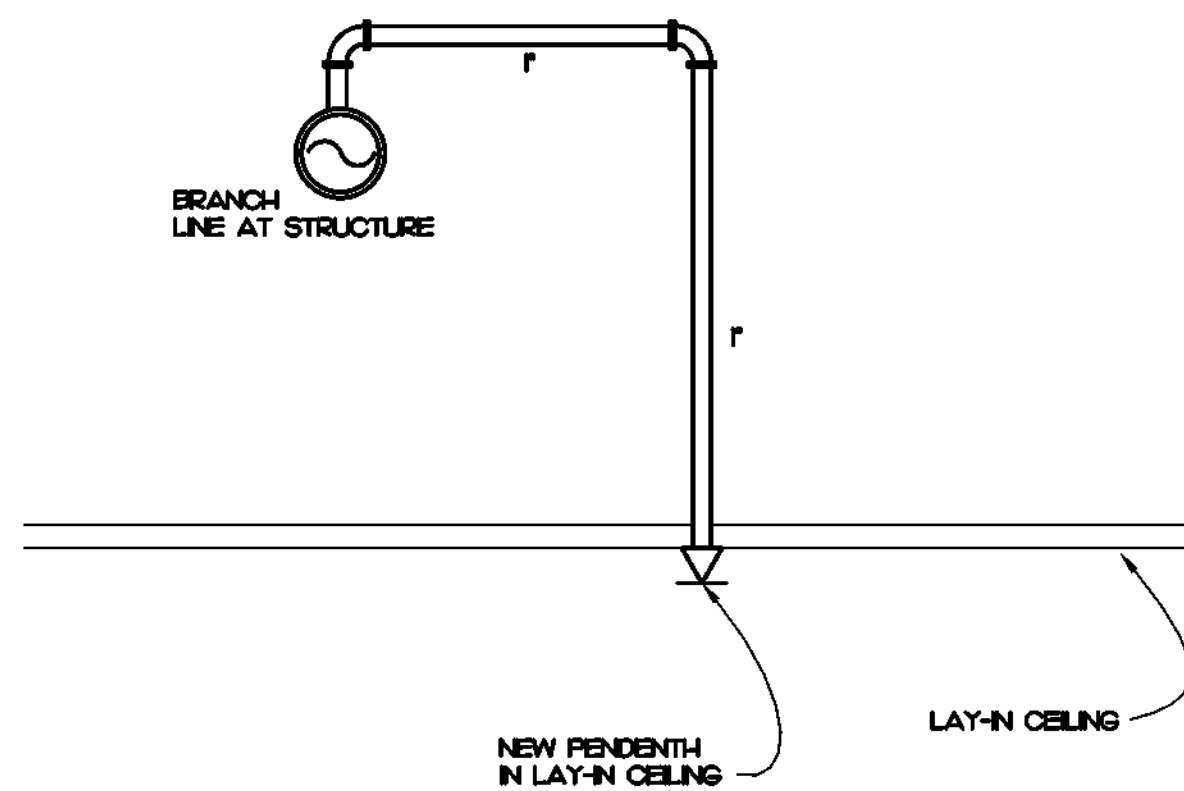
HANGER DETAIL
SCALE: NOT TO SCALE

3



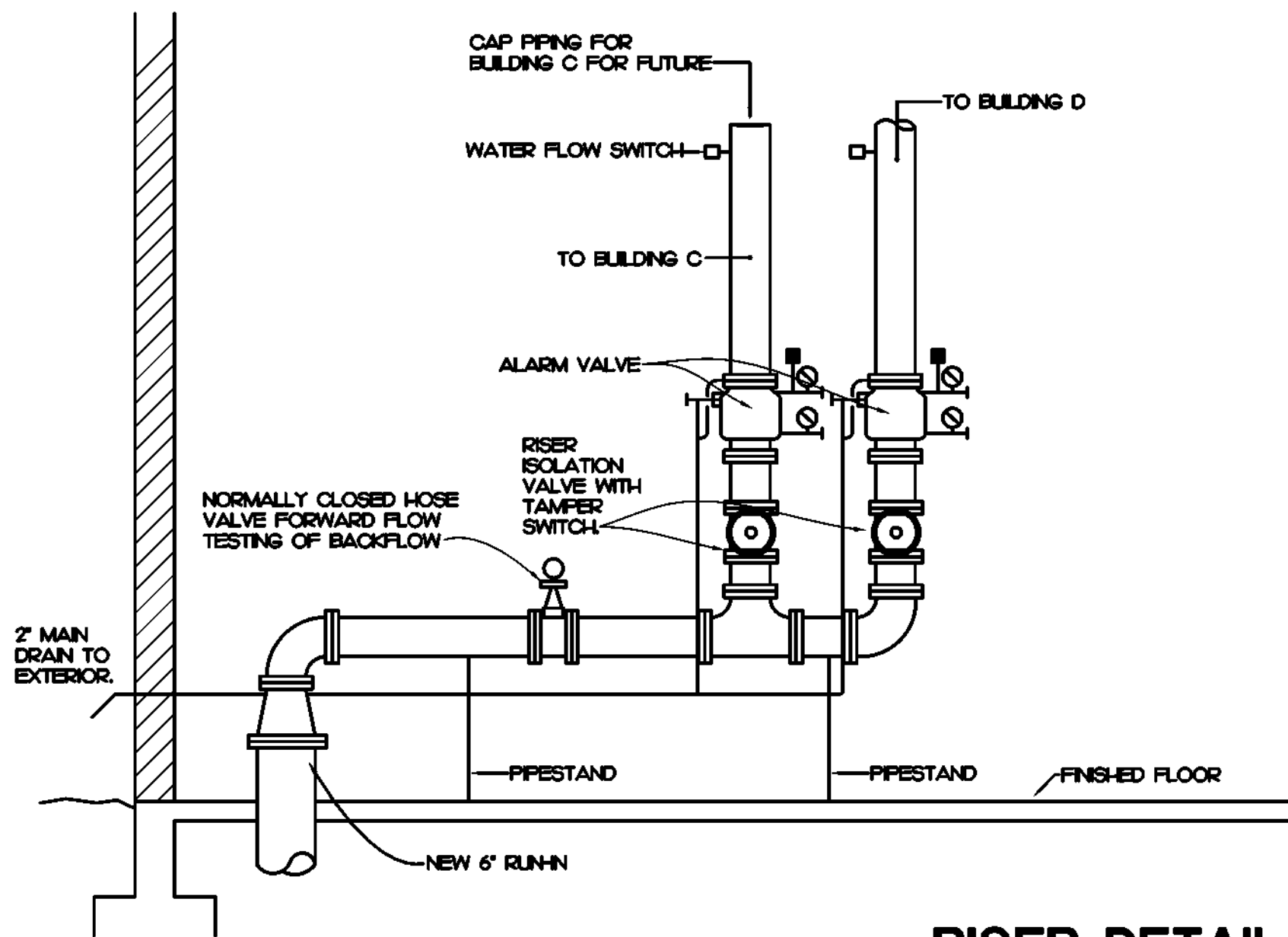
INSPECTOR'S TEST DETAIL
SCALE: NOT TO SCALE

2



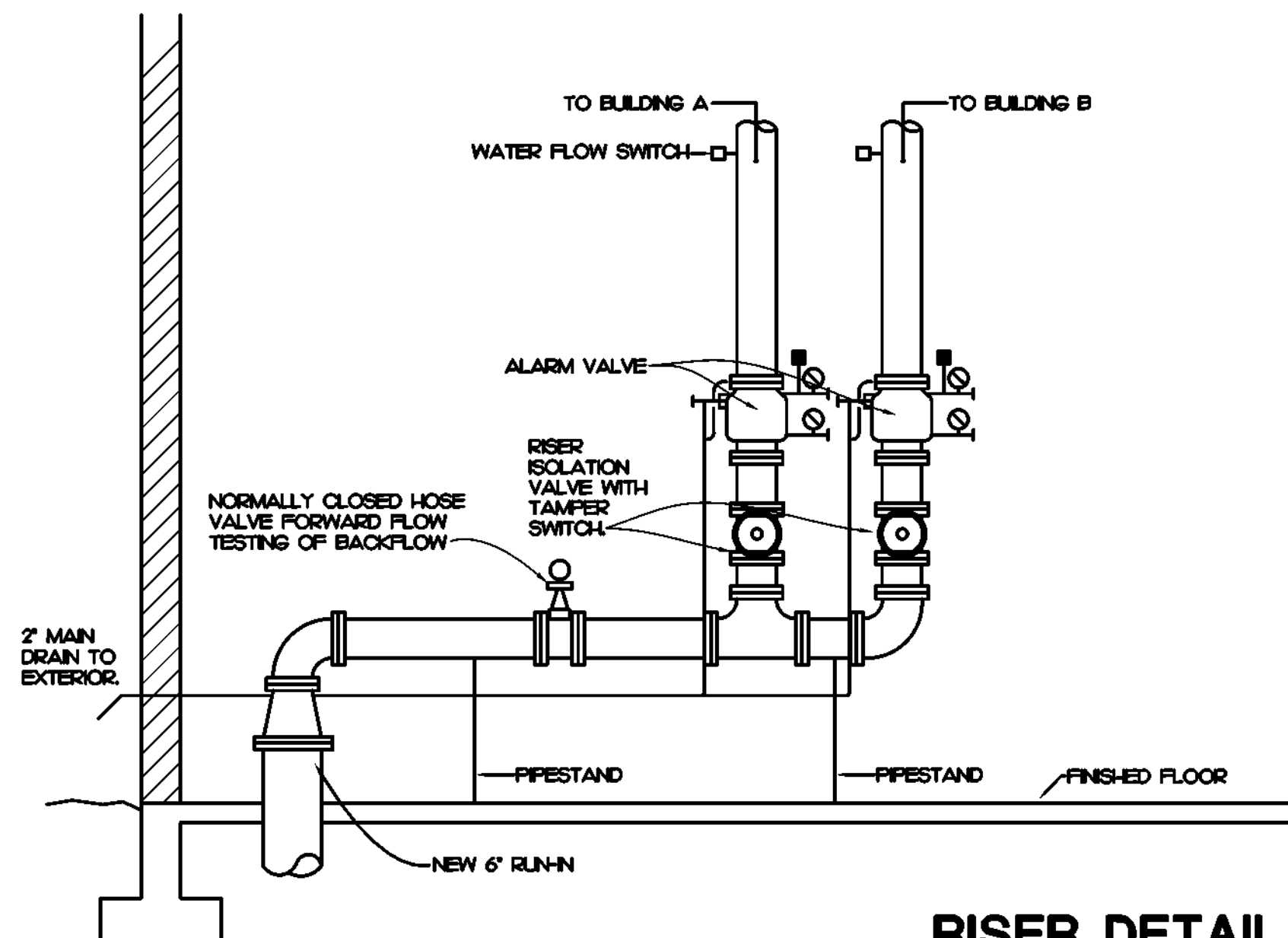
ARM OVER DETAIL
SCALE: NOT TO SCALE

1



RISER DETAIL C/D
NOT TO SCALE

5



RISER DETAIL A/B
NOT TO SCALE

4

GENERAL NOTES

1. THE SPRINKLER CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES PRIOR TO INSTALLATION (LIGHTS, PIPES, ETC.).
2. THE SPRINKLER CONTRACTOR SHALL COORDINATE SHUT-OFF TIMES WITH OWNER.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL NFPA CODES, IS & 72.
4. THE SPRINKLER CONTRACTOR SHALL BE A LICENSED SPRINKLER CONTRACTOR.
5. WIRING FROM ALL TAMPER SWITCHES AND FLOW SWITCHES TO FIRE ALARM PANEL SHALL BE BY THE ELECTRICAL CONTRACTOR.
6. ALL CUTTING AND PATCHING SHALL BE DONE BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.
7. ALL PIPE UP TO 2" SHALL BE SCHEDULE 40 BLACK STEEL WITH THREADED FITTING. PIPING 2 1/2" AND LARGER SHALL BE SCHEDULE 40 BLACK STEEL WITH ROLLED GROOVE FITTINGS.
8. ALL HEADS ARE TO BE CENTERED IN TILES UNLESS OTHERWISE NOTED.
9. TESTING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. PRESSURE TEST SHALL BE STATIC WATER AT TEST PRESSURE OF 200 PSIG FOR 2 HOURS DURATION WITHOUT LEAK FROM ANY JOINT OR SEGMENT OF THE PIPING SYSTEM FROM ANY EQUIPMENT OR DEVICE.
10. THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE WORK OF OTHER TO BUILDING AND PROPERTY / MATERIALS OF OTHERS CAUSED BY LEAKS IN SPRINKLER EQUIPMENT, UNPLUGGED OR DISCONNECTED PIPES FOR FITTINGS, AND SHALL PAY FOR NECESSARY REPLACEMENT OR REPAIR OF WORK OR ITEMS SO DAMAGED DURING THE INSTALLATION AND TESTING PERIODS OF THE STANDOFF WORK.
11. FLUSH, TEST, AND INSPECT SPRINKLER PIPING SYSTEMS IN ACCORDANCE WITH NFPA 13.
12. REPLACE PIPING SYSTEM COMPONENTS WHICH DO NOT PASS THE TEST PROCEDURES SPECIFIED, AND RETEST REPAIRED PORTION OF THE SYSTEM. THE CONTRACTOR SHALL PROVIDE A UNIT COST TO ADD ADDITIONAL HEADS REQUIRED IN THE FIELD.
13. THE CONTRACTOR SHALL INCLUDE COST IN CONTRACT TO ADD HEADS REQUIRED IN THE FIELD.
14. THE G.C. TO PAINT EXPOSED PIPING, COORDINATE ROUTING OF PIPING WITH G.C.

COORDINATION DRAWINGS

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COORDINATION DRAWINGS TO IDENTIFY AND RESOLVE INSTALLATION OF ALL PIPE, DUCT, EQUIPMENT, CONDUIT, HANGERS, ETC. NECESSARY FOR COMPLETE AND OPERATIONAL PLUMBING, MECHANICAL, FIRE PROTECTION, ELECTRICAL, AND FIRE ALARM SYSTEMS SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL INCLUDE WEEKLY MEETING TO FACILITATE THE PRODUCTION OF COORDINATION DRAWINGS. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY THAT ALL TRADES PARTICIPATE IN PREPARATION OF COORDINATION DRAWINGS AND THE INSTALLATION OF WORK IN ACCORDANCE WITH DRAWINGS. SEE SPECIFICATION SECTION 09100.

DESIGN SUMMARY

THE FIRE SPRINKLER CONTRACTOR (FSC) SHALL PROVIDE A COMPLETE DESIGN IN ACCORDANCE WITH NFPA 13 FOR LIGHT COVERAGE, DRY COVERAGE AND ORDINARY GROUP 1 COVERAGE. THE DESIGN SHALL BE A HYDRAULIC CALCULATION METHOD GENERATED BY A FIRE SPRINKLER COMPUTER PROGRAM. THE DESIGN SHALL BE PERFORMED BY A NICET LEVEL II TECHNICIAN OR A PROFESSIONAL ENGINEER EXPERIENCED IN FIRE SPRINKLER DESIGN. ALL DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE SPRINKLER EQUIPMENT AND MATERIALS TO THE PROJECT ENGINEER OF RECORD FOR REVIEW. THE FOLLOWING SPECIFIC REQUIREMENTS SHALL BE INCORPORATED INTO THE DESIGN OF THE SYSTEM:

1. FIRE MAIN FROM THE TAP AT THE UTILITY SYSTEM WATER MAIN INTO THE BUILDING TO ONE FOOT ABOVE FINISHED FLOOR AT THE DESIGNATED RISER LOCATION SHALL BE INSTALLED BY THE SITE UTILITY CONTRACTOR.
2. SPRINKLER HEADS SHALL BE CENTERED IN ALL LAY-IN CEILING TILES.
3. SPRINKLER HEADS IN LAY-IN AND SHEET ROCK CEILINGS SHALL BE CONCEALED TYPE. COORDINATE COLOR OF COVER PLATE WITH ARCHITECT TO MATCH SURROUNDING COLOR OF CEILING.
4. FIRE DEPARTMENT CONNECTION TO BE LOCATED AT BACKFLOW PREVENTER ON SITE. COORDINATE EXACT LOCATION WITH LOCAL FIRE DEPARTMENT.
5. FLOW TEST FOR PIPING IS AS FOLLOWS. CONTRACTOR SHALL PROVIDE NEW FLOW TEST FOR DESIGN PER SCO GUIDELINES. REDUCE STATIC AND RESIDUAL PRESSURE BY 10 PSI AND FLOW BY 10% FOR DESIGN OF SPRINKLER SYSTEM.
6. SEE ARCHITECTURAL, SITE, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR ALL SECTIONS, ELEVATIONS AND OTHER TRADES FOR COORDINATION. IT IS THE SPRINKLER CONTRACTOR'S RESPONSIBILITY TO COORDINATE PIPE ROUTING AND HEAD PLACEMENT WITH OTHER TRADES AND PROVIDE CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT AND MECHANICAL EQUIPMENT. COSTS ASSOCIATED WITH CONFLICTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.

FLOW TEST:
STATIC: 56 PSI
RESIDUAL: 40 PSI
FLOW: 1094 GPM
TEST DATE: 05/29/2024

FIRE FLOW ANALYSIS

PER 2016 NC FIRE CODE APPENDIX B:
BUILDING AREA 17,954 SQFT
TYPE I-B CONSTRUCTION

PER TABLE 906.2(2) THE FIRE FLOW REQUIRED IS 2750 GPM REDUCED TO 25% OF THIS PER TABLE 906.2(2) BUT NOT LESS THAN 1000 GPM SINCE THE BUILDING IS PROTECTED BY NFPA 13 SYSTEM. FIRE FLOW REQUIRED IS 1000 GPM. FLOW TEST PROVIDED SHOWS STATIC PRESSURE OF 56 PSI, RESIDUAL PRESSURE OF 40 PSI FLOWING 1094 GPM. THIS YIELDS A FLOW IN EXCESS OF 1000 GPM AT 20 PSI.

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North Carolina Design Registration #F-1507

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RALEIGH, NC 27612
P: 919.571.1111
REF. SCALE IN INCHES PROJECT # 24045

REVISIONS	5/27/25				
FOR CONSTRUCTION					



PREPARED FOR:
NC DEPARTMENT
OF INSTRUCTION
SCO #
24-27792-01A

GOVERNOR MOREHEAD SCHOOL
SPRINKLER, ADA TOILET, LIGHTING
UPGRADES FOR DORMS A, B, + D
RALEIGH, NC

CONTENTS:
FIRE PROTECTION
NOTES, LEGENDS
AND DETAILS

DATE:
May 27, 2025

DESIGNER: JAD
ENGINEER: BMF

SHEET NO.

FP-001

OF