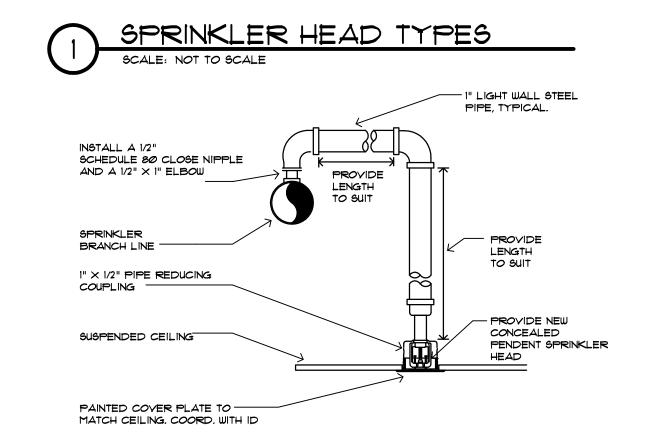
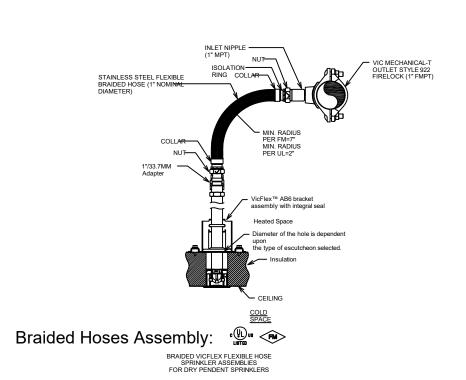


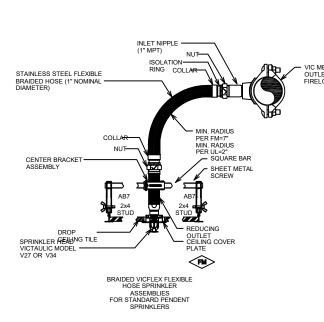
NOTE: ALL SPRINKLERS SHALL BE QUICK-RESPONSE TYPE AND BE APPROVED FOR HAZARD.



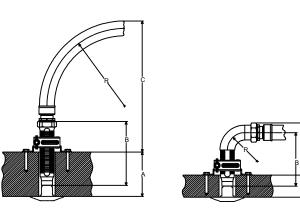
- 1. ADJUST SPRINKLER DROPS AS NECESSARY TO CLEAR OBSTRUCTIONS SUCH AS THE CEILING
  "T" BAR SUSPENSION SYSTEM, LIGHT FIXTURES, ETC. PROVIDE A PIPE HANGER IF THE HORIZONTAL
  OFFSET I ENGLE EXCEEDS 24 INCLES
- 2. THIS SPRINKLER HEAD DROP IS APPLICABLE ONLY WHERE IT IS NOT NECESSARY TO RETAIN AN UPRIGHT SPRINKLER FOR PROTECTION OF COMBUSTIBLE CONSTRUCTION ABOVE THE CEILING.
- . FLEXIBLE ARMOVER PIPING SHALL BE IN ACCORD WITH THE UL LISTING CRITERIA FOR INTENDED





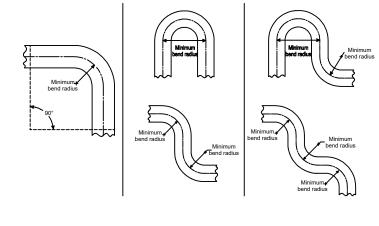


FIRE SPRINKLER STEEL PIPE TABLE LIGHT HAZARD CLASSIFICATION							
STEEL PIPE DIA. (INCH)	MAXIMUM NUMBER OF SPRINKLER HEADS						
1"	2						
1 1/4"	3						
1 1/2"	5						
2"	10						
2 1/2"	3Ø						
3"	60						
3 1/2"	100						
4"	SECTION 5-2						



Hose Clearance																								
Wall Thickness "A"		2 50			4 100		15			8 00	10 250	12 300		2 50			4 100		15			8 00	10 250	12 300
Outlet Length "B"	5.75 146.1	9 228.6	13 330.2	5.75 146.1	9 228.6	13 330.2	9 228.6	13 330.2	9 228.2	13 330.2	13 330.2	13 330.2	5.75 146.1	9 228.6	13 330.2	5.75 146.1	9 228.6	13 330.2	9 228.6	13 330.2	9 228.2	13 330.2	13 330.2	13 330.2
Hose Clearance "C"	13.82 351.03	17.07 433.58	21.07 535.18	11.82 300.23	15.07 382.78	19.07 484.38	13.07 331.98	17.07 433.58	11.07 281.18	15.07 382.78	13.07 331.98	11.07 281.18	14.82 376.43	18.07 458.98	22.07 560.58	12.82 325.63	16.07 408.18	20.07 509.78	14.07 357.38	18.07 458.98	12.07 306.58	16.07 408.18	14.07 357.38	12.07 306.58
Bend Radius 7 "R" 175													2	8										

Note: Style AB3 and Series AH2 figures shown. Variations of block wall, sprinkler heads, reducers, and hoses are permitted but may result in clearance differences from the figure above.



Note: For out of plane (three-dimensional) bends care must be taken to avoid imparting torsional stress on the hose.

Flexible Hose In-Plane Bend Characteristics

### Model Number Correlation Series AH4 Hose Outlet Se

Outlet Size	Series AQB Hose Assembly Designation	Series AFB Hose Assembly Designation
1/2	AQB31HLD	AFB31HLD
3/4	AQB31TLD	AFB31TLD
1/2	AQB36HLD	AFB36HLD
3/4	AQB36TLD	AFB36TLD
1/2	AQB48HLD	AFB48HLD
3/4	AQB48TLD	AFB48TLD
1/2	AQB60HLD	AFB60HLD
3/4	AQB60TLD	AFB60TLD
1/2	AQB72HLD	AFB72HLD
3/4	AQB72TLD	AFB72TLD
	1/2 3/4 1/2 3/4 1/2 3/4 1/2 3/4 1/2	Assembly Designation 1/2 AQB31HLD 3/4 AQB31TLD 1/2 AQB36HLD 3/4 AQB36TLD 1/2 AQB48HLD 3/4 AQB48TLD 1/2 AQB48HLD 3/4 AQB46TLD 1/2 AQB60HLD 1/2 AQB60TLD 1/2 AQB60TLD 1/2 AQB72HLD

NOTES:

1. SPRINKLER DATA & DETAILS HAVE BEEN PROVIDED BY 'VICTAULIC' FIRE PRODUCTS.

UL LISTED FIRE PIPING FOR FIRE HAZARD LEVELS PROPOSED SHALL BE OF EQUAL QUALITY

AND LISTED TO THE UL CRITERIA REQUIRED.

#### SPRINKLER DENSITY AND SPACING SYSTEM DESIGN DENSITY MAXIMUM PROTECTION MAXIMUM SPACING CLASSIFICATION LIGHT HAZARD HYDRAULICALLY | Ø.10 GPM/ SQ FT 15 FT. 225 SQ. FT ORDINARY HAZARD HYDRAULICALLY Ø.15 GPM/ SQ FT 130 SQ. FT. 15 FT. GROUP 1

	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
CPVC PIPING	3'	3'	4'	4'	4'	4'	4'	N/A	N/A
THREADED LT. WALL STEEL	N/A	12'	12'	12'	12'	12'	N/A	N/A	N/A
STEEL PIPING	N/A	12'	12'	12'	12'	12'	12'	12'	12'

SPRINKLER LEGEND										
SYM.	NAME	FINISH	TEMP	K	NPT	ORIFICE	ESCH.			
A	RECESSED	WHITE	155	5.6	1/2"	1/2"	WHITE			
<b>&gt;</b>	REC. SIDE	WHITE	155	5.6	1/2"	1/2"	WHITE			
NOTES:										
	BPRINKLER HEA PANCIES.	ADS SHALL E	BE QUICK	K RESPO	NSE TYP	E IN LIGHT	HAZARD			

HYDRAULIC DESIGN	IDATA - LIGHT HAZARD WITH					
ORDINARY HAZARD						
A.H.J.	PINELLAS COUNTY					
DESIGN STD.	NFPA 13					
PIPE TYPES:						
MAINS	SCH 10 BLACK STEEL					
BRANCHES	9CH 4Ø BLACK STEEL					
SPRINKLER ORIFICE	1/2" K = 5.6					
AREA LOCATION	ATTIC - CONCEALED COMBUSTIBLE SPACE					
* OF FLOWING SPRINKILERS	12					
DENSITY (GPM/SQ. FT.)	Ø.1					
REMOTE AREA (6Q. FT.)	1500					
FIRE FLOW TEST DATA						
TEST HYDRANT	HYDRANT 1-910 NEW YORK AVENUE					
TEST DATE	MAY 16 2019					
FLOW (GPM)	1190					
STATIC PRESSURE (PSI)	72					
RESIDUAL PRESSURE (PSI)	50					
DEMAND AT SOURCE CONNECT	ION					
FLOW(GPM)	119Ø *					
PRESSURE (PSI)	5Ø.Ø *					
OUTSIDE HOSE STREAM (GPM)	25 <i>Ø.ØØ</i> *					
* TO BE DETERMINED BY HYDRAULIC CALCULATIONS - MAX. PIPE VELOCITY TO BE 25 FPS						

#### FIRE PROTECTION LEGEND:

NEW RECESSED FIRE SPRINKLER
 - ID - FIRE PIPING DRAIN

 NEW RECESSED FIRE SPRINKLER

 TI OWN INDICATION

■ NEW SIDE WALL FIRE SPRINKLER⑥ EX. FIRE SPRINKLER

FLOW INDICATOR

NEW CONNECTION TO EX. FIRE SPRINKLER LINE

#### FIRE PROTECTION GENERAL NOTES

- THE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS ARE PROVIDED TO BE USED FOR THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DRAWINGS TO INDICATE THE NATURE AND SCOPE OF THE WORK. CONTRACTOR SHALL PROVIDE FINAL SUBMITTALS AND SHOP DRAWINGS INDICATING WORK TO BE DONE, DOCUMENTS SHALL BE SEALED BY A FL. REG. LICENSED ENGINEER. AND PROVIDED TO THE LOCAL BUILDING OFFICIAL(S). REFER TO FBC. 107.3.1
- LICENSED ENGINEER. AND PROVIDED TO THE LOCAL BUILDING OFFICIAL(S), REFER TO FBC. 107.

  COORDINATE ANY REQUIRED INTERRUPTIONS IN PROTECTION WITH THE AUTHORITY HAVING
- 3. COORDINATE ALL WORK WITH THE OWNER AND ALL OTHER TRADES PRIOR TO COMMENCEMENT. REPORT ANY CONFLICTS THAT MAY ARISE TO THE ARCHITECT IN WRITING IMMEDIATELY BEFORE
- 4. THE FIRE PROTECTION WORK SHALL INCLUDE BUT NOT LIMITED TO:

JURISDICTION AND THE BUILDING OWNER/OPERATOR.

- (a) FIRE DEPARTMENT CONNECTIONS SHALL BE PROVIDED FOR CHARGING THE AUTOMATIC SPRINKLER SYSTEM. ALL FIRE DEPARTMENT CONNECTIONS SHALL HAVE INTERNAL THREADED SWIVEL FITTINGS AND SHALL BE EQUIPPED WITH CAPS OR PLUGS AS REQUIRED BY FIRE MARSHALL.
- (b) INSPECTORS TEST STATIONS AND SYSTEM DRAINS AS REQUIRED TO COMPLETE THE SYSTEM. IT
- (c) ASSOCIATED MAIN, CROSS MAIN, BRANCH, AND OTHER PIPING AND FITTINGS AS SIZED BY HYDRAULIC CALCULATION.
- (d) SPRINKLER HEADS LISTED AND APPROVED FOR INSTALLATION AS WILL BE INDICATED IN THE LAYOUT DOCUMENTS.
- (e) THRUST BLOCKS, HANGERS, RISER CLAMPS, COUPLINGS, CLAMPS, STRAPPING, RESTRAINTS, NIPPLES, HOSE CONNECTIONS, NAILS, SCREWS, BOLTS, NUTS, INSERTS, RODS,
- ETC. AS REQUIRED TO COMPLETE THE SYSTEM.

  (f) THE CALCULATED WATER VELOCITY SHALL NOT EXCEED 20 FEET PER SECOND IN ANY
- SEGMENT OF THE DESIGNED SYSTEM.

  (g) PROVIDE TESTING AS REQUIRED PER NFPA 13-2013, and NFPA 24-2013.
- 5. ALL FIRE PROTECTION PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH NFPA 13. PROVIDE LABELS AT REGULAR INTERVALS INDICATING PIPING SERVICE SUCH AS "FIRE PROTECTION WATER" AND ARROWS INDICATING FLOW DIRECTION.
- 6. PIPING 1" TO 2" SHALL BE SCHEDULE 40 BLACK STEEL, ASTM SPECIFICATIONS A53, A120 OR A135. PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 10 BLACK STEEL, ASTM SPECIFICATIONS A53, A120 OR A135. ALL EXPOSED PIPING SHALL BE GALVANIZED9. ALL FITTINGS 2" AND SMALLER TO BE CAST IRON SCREWED. ALL FITTINGS THAT ARE 2-1/2" AND LARGER TO BE MECHANICAL GROOVED COUPLINGS, VICTAULIC OR EQUAL. THE INSTALLATION OF UL LISTED FLEX OVER-ARM CONNECTIONS SHALL CONFORM STRICTLY TO THE UL INSTALLATION REQUIREMENTS.
- T. FIRE PROTECTION PIPING SHALL NOT BE SUPPORTED FROM ANYTHING OTHER THAN THE BUILDING STRUCTURE. NOR SHALL ANYTHING BE SUPPORTED FROM FIRE PROTECTION PIPING. ALL PIPE HANGERS AND SUPPORTS MUST BE CAPABLE OF SUPPORTING THE WEIGHT OF THE FILLED PIPE PLUS 250 POUNDS AT EACH SUPPORT POINT.
- 8. SUPPORT ALL FIRE PROTECTION PIPING AT MAXIMUM 10 FOOT INTERVALS. THE DISTANCE BETWEEN THE LAST HANGER AND THE LAST SPRINKLER ON A BRANCH LINE SHALL NOT EXCEED 3 FEET, OTHERWISE THE PIPE SHALL BE EXTENDED BEYOND THE LAST SPRINKLER, AND AN ADDITIONAL HANGER SHALL BE ADDED. ON CROSS MAINS THERE SHALL BE AT LEAST ONE HANGER BETWEEN EACH TWO BRANCH LINES
- 9. ALL VALVES SHALL BE OF THE POSITION INDICATING TYPE AND SHALL NOT BE CAPABLE OF CLOSING, WITHIN 5 SECONDS FROM THE FULL OPEN POSITION.
- 10. ALL CONTROL, DRAIN, AND TEST VALVES SHALL BE PROVIDED WITH A PERMANENTLY MARKED, WEATHERPROOF IDENTIFICATION SIGN. THE SIGN SHALL BE SECURED WITH CORROSION RESISTANT WIRE, CHAIN, ETC... TERMINATING
- 11. ALL FIRE PROTECTION PIPING AND FITTINGS SHALL BE INSTALLED SUCH THAT THE SYSTEM CAN BE EASILY DRAINED. DRAINS SHALL BE INDIRECTLY CONNECTED TO A STORM OR SANITARY SEWER DRAIN OR TO THE EXTERIOR, TERMINATING 6" ABOVE GRADE WITH A TURNED DOWN ELBOW.
- 12. PRESSURE GAUGES IN EACH RISER AND ON EACH SIDE OF EACH FLOW SWITCH OR ALARM CHECK VALVE. ALL VALVES AND GAUGES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- 13. THE SPRINKLER CONTRACTOR SHALL INSTALL NEW HEADS THAT ARE OF THE TYPE AND TEMPERATURE RATING AS REQUIRED FOR THE AREA. STANDARD COMMERCIAL FOR LIGHT AND ORDINARY HAZARDS, UPRIGHT, PENDENT, RECESSED PENDENT, CONFIGURATIONS. STANDARD ORIFICE K=5.6.
- 14. CONCEALED SPRINKLER HEADS SHALL BE USED WHEREVER POSSIBLE THROUGHOUT THE FINISHED SPACES OF THIS PROJECT. COVER PLATE COLOR OR CHROME FINISH SHALL BE APPROVED IN WRITING BY THE ARCHITECT PRIOR TO PURCHASE OR INSTALLATION OF SPRINKLER UNITS. SUBMIT TO ARCHITECT FOR APPROVAL ANY AND ALL SPRINKLER HEAD COLORS AND ESCUTCHEON FINISHES PRIOR TO PURCHASE OR INSTALLATION.
- 15. UNFINISHED AREAS SHALL BE PERMITTED TO BE PROTECTED BY ROUGH FINISH BRASS SPRINKLER HEADS, NOTE ALL SPRINKLERS IN UNCONDITIONED SPACES SHALL BE PROVIDED WITH CORROSION PROTECTION EQUIVALENT TO WAX OR POLYESTER COATING. UNFINISHED CEILINGS BRASS
- 16. SPRINKLER HEADS SHALL BE UNDERWRITERS LABORATORIES LISTED (CANADA AND USA), WITH FRAME OF DIE CAST BRASS, TEFLON ENCAPSULATED BELLEVILLE SPRING SEAL, AND FRANGIBLE GLASS BULB. THE GLASS BULBS ARE AVAILABLE IN STANDARD AND QUICK RESPONSE WITH VARIOUS TEMPERATURE RATINGS ACCORDING TO APPLICATION REQUIREMENT.
- 17. MAINTAIN A SUPPLY OF SPARE SPRINKLERS (NO LESS THAN 6) AND A SPRINKLER WRENCH IN A CABINET ON THE PREMISES WHICH WILL AT NO TIME BE EXPOSED TO TEMPERATURES OVER 100

#### CODES & STANDARDS COMPLIANCE

FIRE PROTECTION INSTALLATION, MATERIALS & CONTROL MATRIX SHALL COMPLY WITH (2013) NFPA-13, NFPA-24 AND 6TH EDITION 2017 FLORIDA BUILDING COD3.

NOTE: IF SPRINKLER SYSTEM TO BE OUT OF SERVICE FOR GREATER THEN 4 HOURS IN A 24 HOUR PERIOD DURING DEMOLITION OR CONSTRUCTION, AN APPROVED FIRE WATCH MUST BE PROVIDED FOR ALL PORTIONS LEFT UNPROTECTED BY THE FIRE PROTECTION SYSTEM SHUTDOWN UNTIL THE FIRE PROTECTION SYSTEM HAS BEEN RETURNED TO SERVICE.

#### INDEX OF FIRE PROTECTION DRAWINGS

FP001 FIRE PROTECTIN GENERAL MECHANICAL INFORMATION FP101 OVERALL 1ST FLOOR FIRE PROTECTION RENOVATION



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Gregory M. Clements, P.E.
State of Florida 67375

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SCALE: NOT TO SCALE



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## OVERALL FIRST FLOOR FIRE PROTECTION PLAN SCALE: 1/8" = 1'-0"

#### FIRE PROTECTION NOTE:

- 1. IF SPRINKLER SYSTEM TO BE OUT OF SERVICE FOR GREATER THEN 4 HOURS IN A 24 HOUR PERIOD DURING DEMOLITION OR CONSTRUCTION, AN APPROVED FIRE WATCH MUST BE PROVIDED FOR ALL PORTIONS LEFT UNPROTECTED BY THE FIRE PROTECTION SYSTEM SHUTDOWN UNTIL THE FIRE PROTECTION SYSTEM HAS BEEN RETURNED TO SERVICE
- FIRE SPRINKLER CONTRACTOR SHALL PROVIDE NEW FLOW TEST AT BEGINNING AND VERIFY PIPE SIZES.
- 3. REFER TO SHEET MGØ2 FOR FIRE PIPING PENETRATIONS THROUGH RATED & NON-RATED WALLS OF ALL APPROVED FIRE PIPING TYPES.

#### FIRE PROTECTION LEGEND:

NEW RECESSED FIRE SPRINKLER

-----FIRE PIPING DRAIN

NEW SIDE WALL FIRE SPRINKLER⊕ EX. FIRE SPRINKLER

ADJUSTED BRANCG CONNECTION TO EX. FIRE SPRINKLER LINE

FIRE PROTECTION LINE TYPES

EX. FIRE PROECTION BRANCH LINE -----

RENOVATION KEY NOTES:

PROVIDE NEW FIRE SPRINKLER HEAD WITH FLEXIBLE CONNECTION TO NEW LOCATION AWAY FROM S/A GRILLE OF A MIN. OF 2'-0"



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