


This is not a Hydraulic Calculation Class!

How far you want to do the hydraulic calculations on a plan review is up to you.



Plan Review of Fire Protection Systems 1


1

Key Items to check

- Compare the given fire flow information to the hydraulic calculation's summary and on the node calculations for the source

WATER SUPPLY DATA						
SOURCE	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW (GPM)	AVAIL. PRESS. (PSI)	TOTAL DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	59.0	53.0	1500.0	49.6	2017.4	49.3

SLD SOURCE	+4.0	- - - -	45.0	- - - -
SOURCE	+4.0	SOURCE	49.3	2017.4




Plan Review of Fire Protection Systems 2

2

Key Items to check

- Check to see if the node #'s match both the analysis and the plan
- Make sure the remote areas are where and what they should be
 - Most demanding
 - Different hazards
 - Most remote

Hydraulic Information	
RemotArea1	
OCCUPANCY CLASSIFICATION	LIGHT HAZARD
DENSITY (LBS/FT ³)	10.10 FOR 1000 FT ³ (ACTUAL 1000 FT ³)
CLASS RESPONSE REDUCTION	10.00 (MINIMUM 10.00)
TOTAL NOSE STREAMS	100.00
TOTAL HEADS/EXTINGUISHERS	0
K-FACTOR	6.8
TOTAL WATER REQUIRED	215.94
TOTAL PRESSURE REQUIRED	47.96
BASE OF RISER (L2/F6)	212.54
BASE OF RISER (F5)	47.96
SAFETY MARGIN (F5)	+11.00 (18.8%)

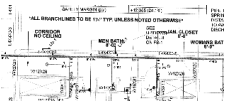


Plan Review of Fire Protection Systems 3

3

Common Issues

- Back flow preventer is different
- Size of piping on analysis is different from plan



Area	Area	Area
AO	1.0830	
1011	10'-8"	
24	10'-8"	
BL	1.5300	
24	10'-8"	
21	10'-8"	



4

Common Issues

- Long runs get shortened
- Design density is off
- Slope of ceiling is not taken into account
- Concealed combustible areas
 - Filled with insulation-adjusts density
- Adjoining hazard 15' rule



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Sprinkler Head Coverage

- Always check the coverage requirements with the spec sheet, plans and calculations. Especially on residential applications
- Always check the head application to the purposed use
- Pay attention to spacing and distance from walls



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Attic Heads

- Have unique protection areas not found in NFPA 13
- Requires special placement of heads
- Obstructions abound
- Always have the designer give a detail on location of heads in attic



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HSW

- Distance from ceiling dependent on sprinkler head, slope, ceiling type.
- Don't use a rule of thumb



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Concealed Combustible Spaces

- Different for different occupancies
- Always require special attention
- Does not matter if a space is accessible or not



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Everything I Missed

- Small room rule
- Overhangs
- Elevator pits
- Obstructions to discharge pattern
- Sprinkler temperatures
- Pools