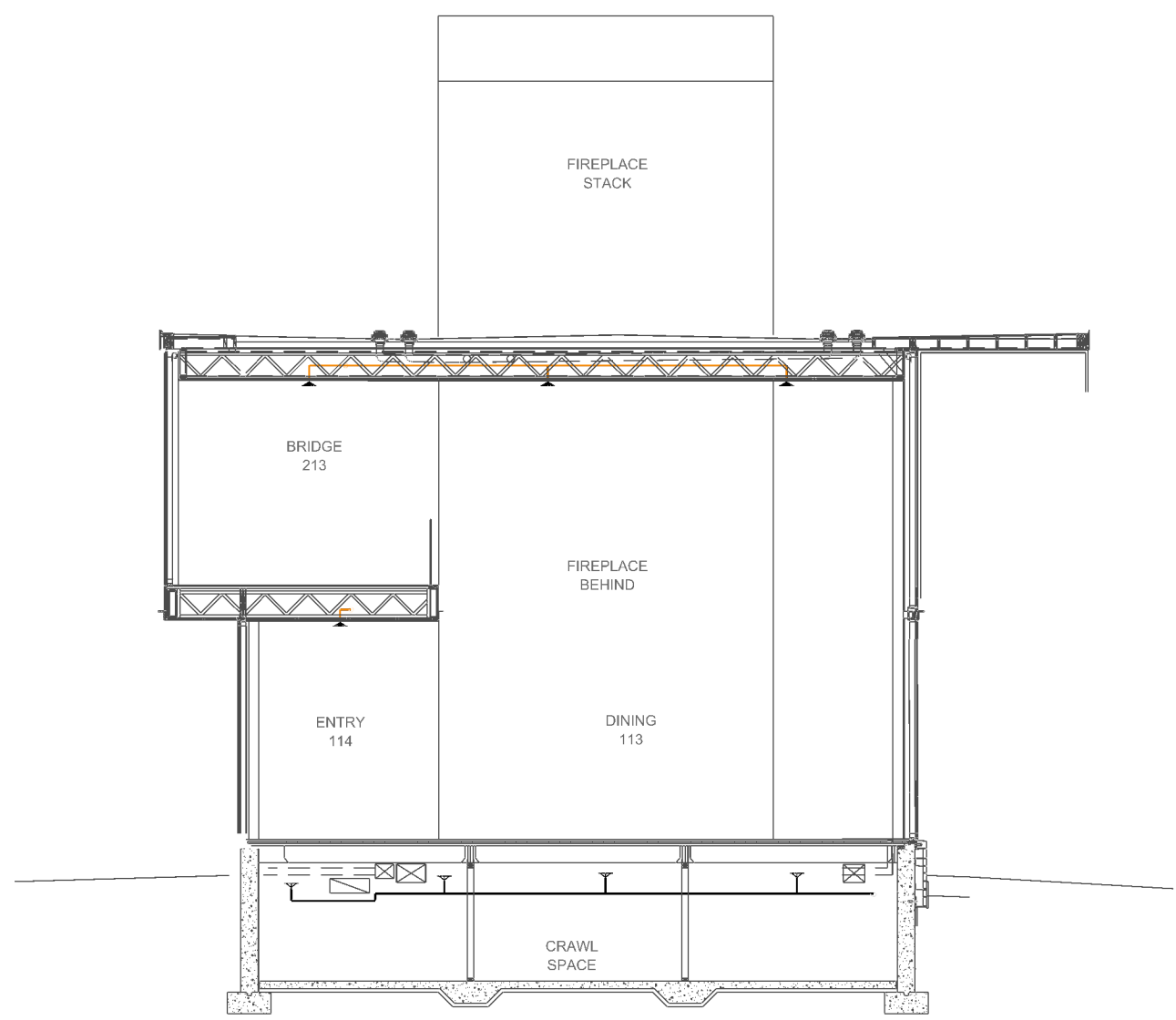
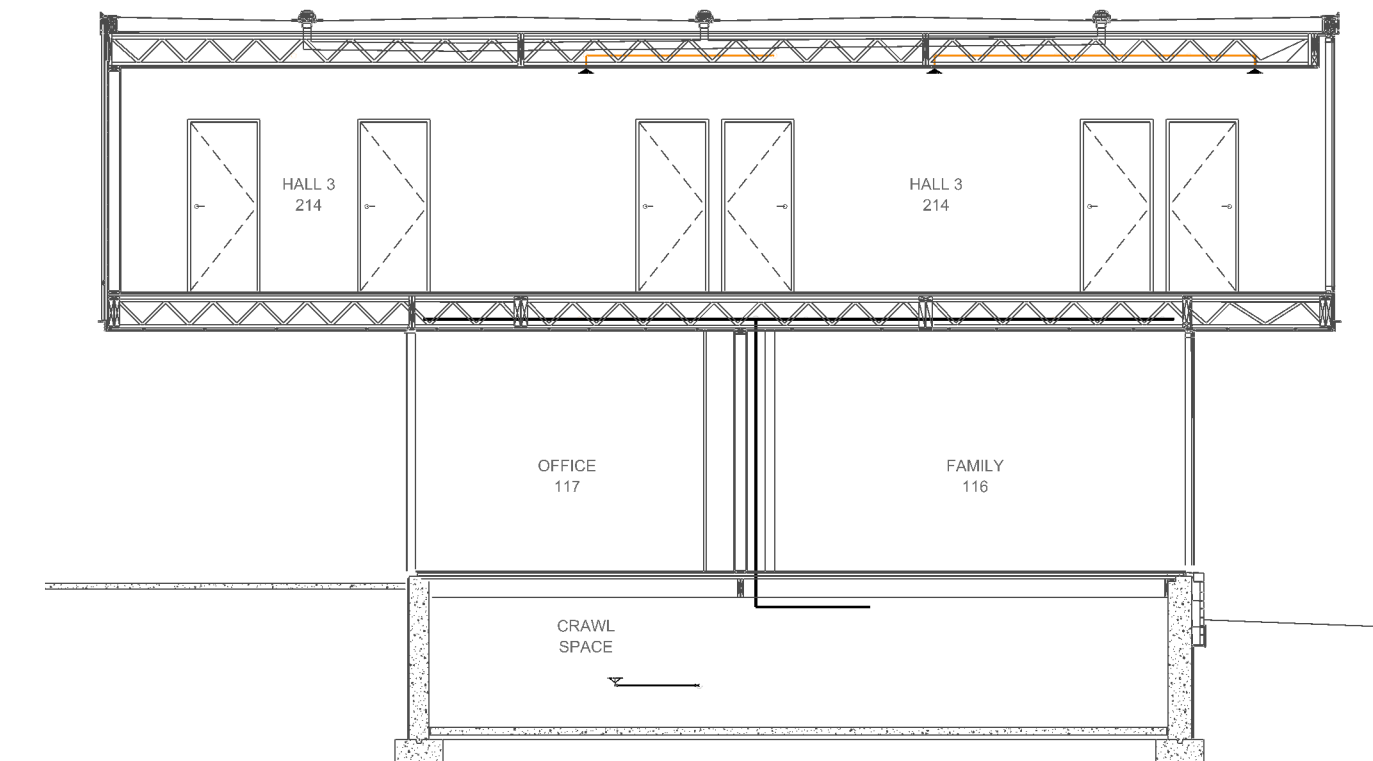


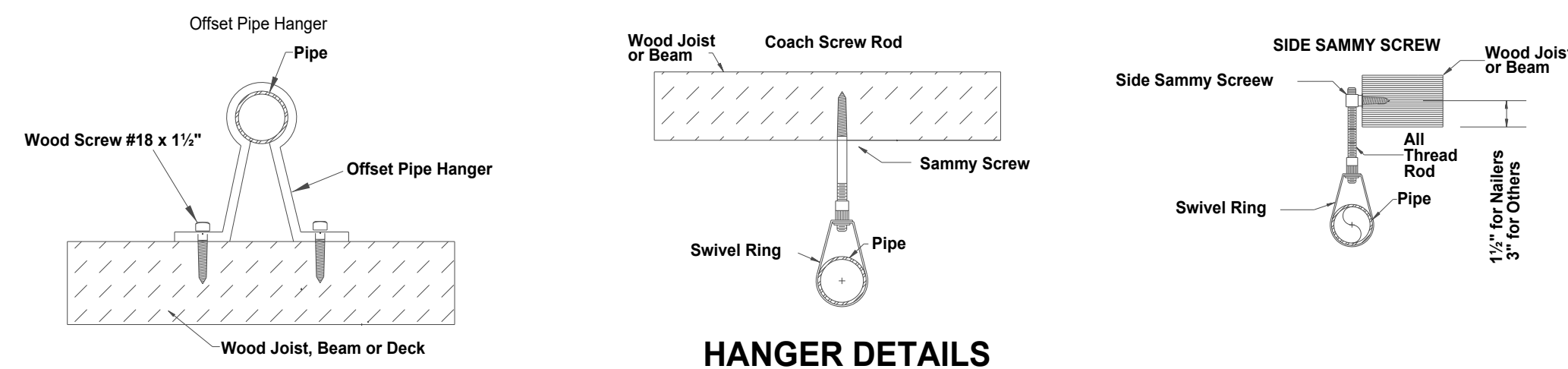
C BUILDING SECTION
SCALE: 1/8" = 1'-0"



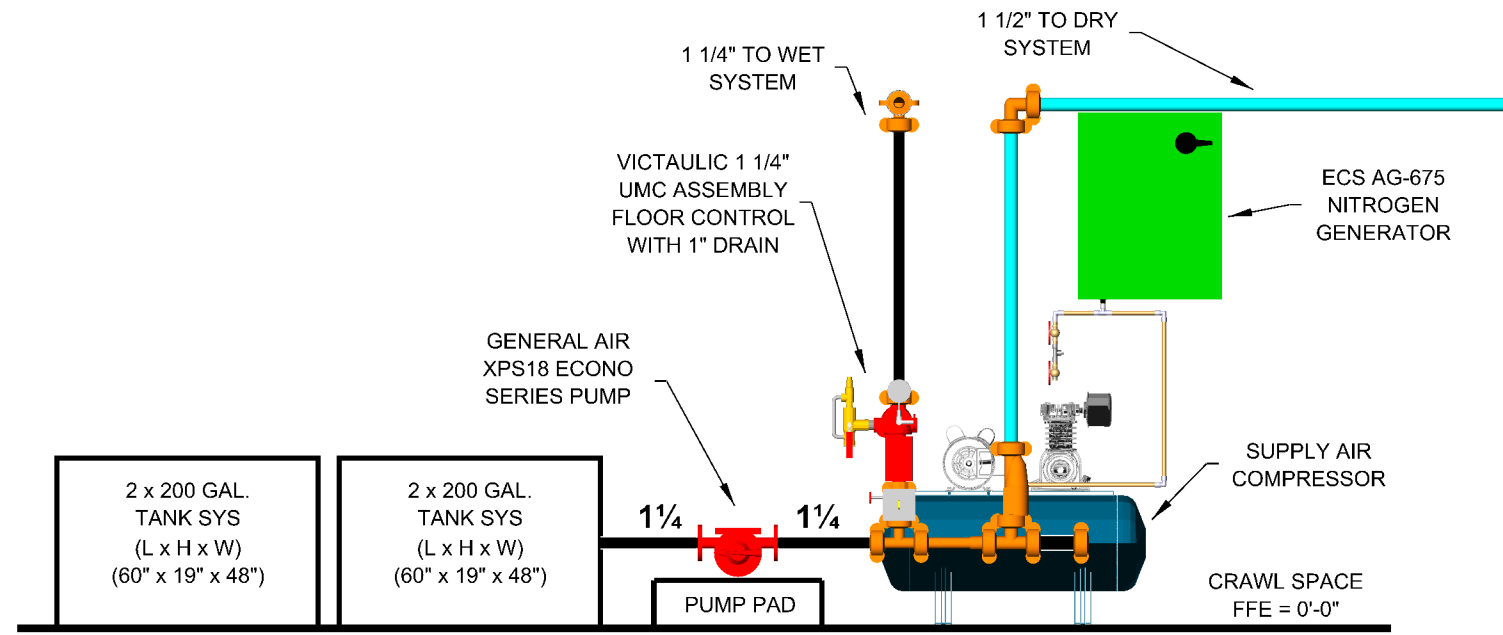
D BUILDING SECTION
SCALE: 1/8" = 1'-0"



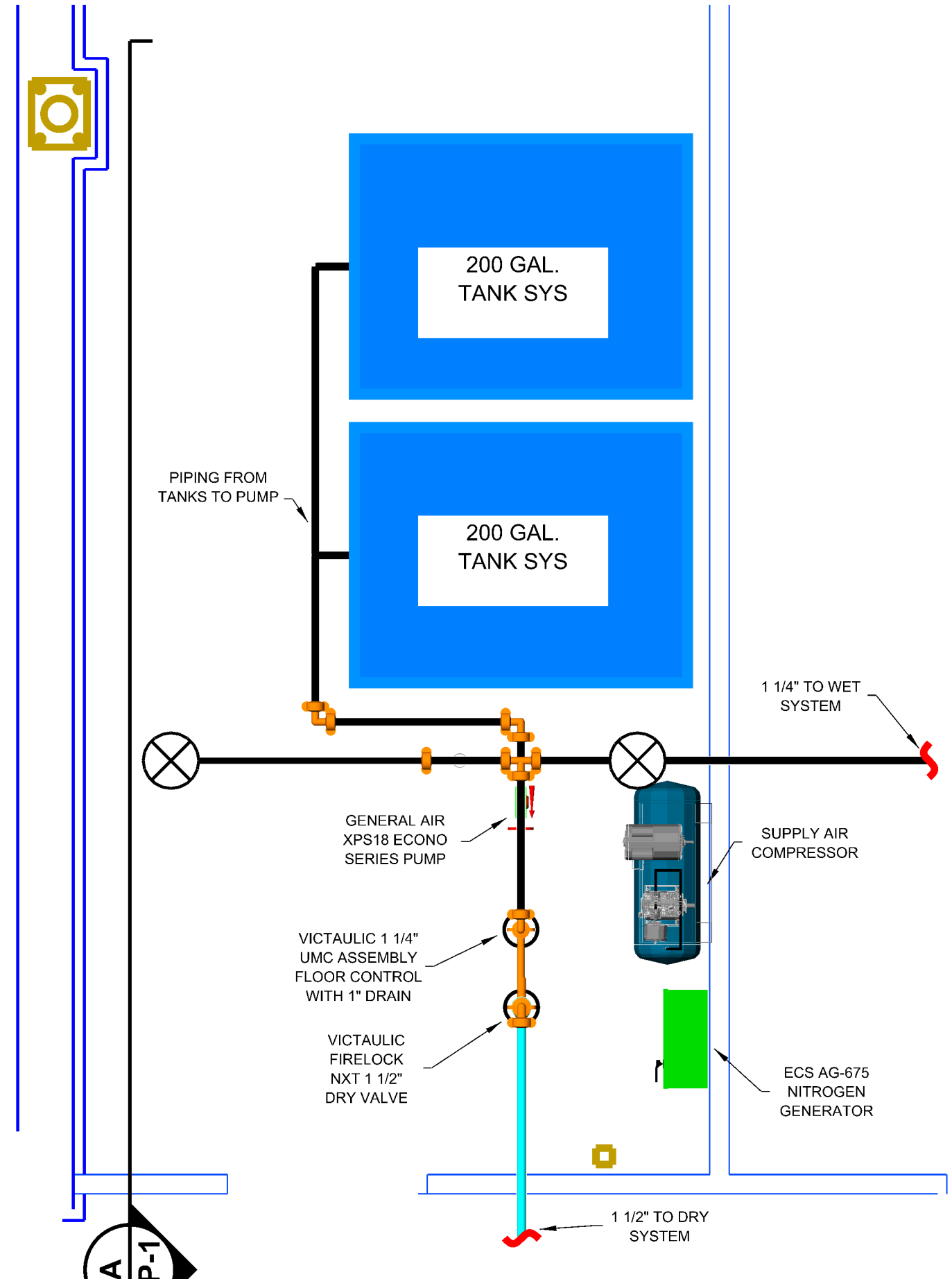
E BUILDING SECTION
SCALE: 1/8" = 1'-0"



HANGER DETAILS



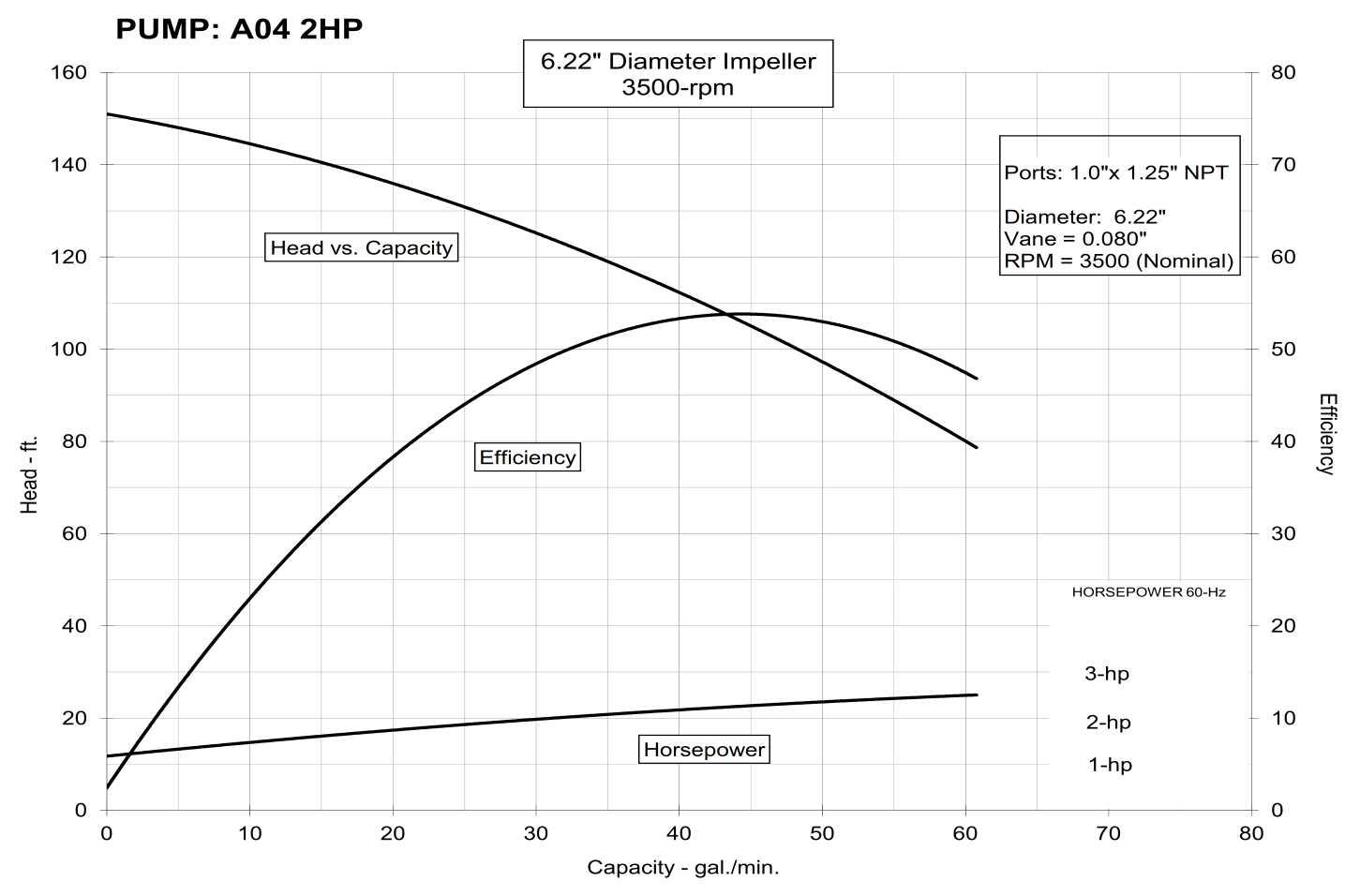
A PUMP DETAIL



B PUMP DETAIL

PUMP TEST DATA	
FLOW (GPM)	DISCHARGE (PSI)
0	65
40 - RATING	50 - RATING
60	35

PUMP TEST INFO. COLLECTED FROM
PUMP SUPPLIER AND SHOWN ON
MATERIAL SUBMITTAL



GENERAL INFORMATION

- INTERNATIONAL BUILDING CODE (2021)
 - ZONING: R1 SINGLE FAMILY RESIDENCE (UNSEWERED)
 - TYPE OF CONSTRUCTION: NEW CONSTRUCTION OF A 2-STORY SINGLE FAMILY HOUSE W/ BASEMENT
 - SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
TOTAL SQFT = 5,616 S.F.
 - DESIGN & INSTALLATION STANDARDS: NFPA-13D (2013), NFPA (2019)
 - SPRINKLER PIPE TYPES:
 - WET-
 - 2.1 ALL THREADED PIPE TO BE SCHEDULE 40 BLACK STEEL W/ THREADED FITTINGS
 - 2.2 ALL WELDED LINE & MAIN PIPING (SIZE 1 1/4") TO BE BLK SCHEDULE 10 W/ GROOVED FITTINGS
 - DRY-
 - 2.5 ALL THREADED PIPE TO BE SCHEDULE 40 BLACK STEEL W/ THREADED FITTINGS
 - 2.6 ALL WELDED LINE & MAIN PIPING (SIZE 1 1/2") TO BE BLK SCHEDULE 10 W/ GROOVED FITTINGS
 - DESIGN CRITERIA:
 - ALL AREAS PROTECTED ACCORDING TO NFPA 13D WITH SPRINKLER FLOW DETERMINED BY REQUIREMENTS SET FORTH BY NFPA 13D AND SPRINKLER HEAD LISTING DATA. PIPING IS SIZED ACCORDINGLY BY HYDRAULIC CALCULATIONS. REFER TO SPRINKLER HEAD DATA SHEETS FOR DISCHARGE CRITERIA. SYSTEM DESIGNED USING A TANK AND PUMP SYSTEM FOLLOWING THE REQUIREMENTS SET FORTH BY NFPA 13D. 300 GALLON TANK REQUIRED TO MEET SYSTEM DEMAND OF 30 GPM FOR 10 MIN
 - SPRINKLER PROTECTION IS PROVIDED FOR LIVING AREAS AND THE FOLLOWING AREAS PER 13D:
 - CLOSETS OVER 24 S.F.
 - BATHROOMS OVER 55 S.F.
 - SPRINKLER PROTECTION IS NOT PROVIDED FOR THE FOLLOWING AREAS:
 - CLOSETS UNDER 24 S.F. PER 8.3.3
 - BATHROOMS UNDER 55 S.F. PER 8.3.2
 - NOTES:
 - INSULATION TO BE ADDED IN ROOF STRUCTURE TO PROTECT WET SYSTEM PIPE FROM COLD
 - ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
 - HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 - SEE PLAN FOR HANGING REQUIREMENTS
 - ALL SPRINKLERS INSTALLED PER NFPA-13 & MFG. DESIGN DATA
 - ALL SPRINKLERS 200° F UNLESS NOTED OTHERWISE
 - ALL PIPING TO BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS
 - ALL RATED WALL PENETRATIONS TO BE FIRE CAULKED
 - ALL UNDERGROUND PIPING BY OTHERS
 - UNDERGROUND INSTALLATION, FLUSHING, AND TESTING TO BE PERFORMED BY OTHERS PRIOR TO CONNECTION TO SPRINKLER SYSTEM
 - ALL CEILING CONSTRUCTION TO BE GYP UNLESS NOTED OTHERWISE
- DRY SYSTEM REQUIREMENTS:
- DRY SYSTEM PIPE SLOPE INSTALLATION
- SPRINKLER MAINS TO BE 1/4" PER 10'-0" (NONREFRIGERATED AREAS)
- SPRINKLER MAINS TO BE 1/2" PER 10'-0" (REFRIGERATED AREAS)
- SPRINKLER BRANCH LINES TO BE 1/2" PER 10'-0"
- DRY SYSTEM CAPACITY
- 15 GALLONS
5. SYMBOLS USED ON DRAWINGS:
- ★+FF PIPE ELEVATION ABOVE FINISH FLOOR
 - ★+TS PIPE ELEVATION BELOW TOP OF STEEL
 - OH1 ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD U.N.O.)
 - W HYDRAULIC CALCULATION JUNCTION POINT
 - 9'-0" CEILING HEIGHT
 - WET BLACK STEEL PIPE
 - WET CPVC PIPE
 - DRY BLACK STEEL PIPE
6. SCOPE OF WORK:
- INSTALL A COMPLETE SINGLE ZONE WET FIRE SPRINKLER SYSTEM TO COVER ALL AREAS OF BUILDING
 - INSTALL A COMPLETE SINGLE ZONE DRY FIRE SPRINKLER SYSTEM TO COVER ALL AREAS OF BUILDING
 - ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION, AND NFPA 13D

Pipe hangers shall be installed as required by NFPA for supporting sprinkler piping.
No other piping and/or devices are to be attached to the sprinkler pipe hanger system
unless the hanger has been specifically designed for the additional loading.
THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL
STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.

NFPA 13 TABLE 17.4.2.1(a) MAXIMUM DISTANCE BETWEEN HANGERS (ft-in.)
Note: IPS iron-pipe size; CTS-copper tube size.

Nominal Pipe Size (in.)	1/4"	1"	1-1/4"	1-1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
Steel pipe except threaded lightwall	N/A	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
Threaded Lightwall Steel pipe	N/A	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	N/A	N/A	N/A	N/A	N/A
Copper Tube	8'-0"	8'-0"	10'-0"	10'-0"	12'-0"	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
CPVC	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"	10'-0"	N/A	N/A	N/A	N/A	N/A

LICENSE # 1187131	LAKE GENEVA RESIDENCE N1973 DUCK CREEK PASS, LAKE GENEVA, WI 53147
DATE 10/27/2025	
DRAWN BY: DA	
SHEET NUMBER FP1	

WATER FLOW INFORMATION	
FLOW TEST DATE	-
FLOW TEST LOCATION	-
ELEVATION	-
STATIC PRESSURE	-
RESIDUAL PRESSURE	-
FLOWING	-
CONDUCTED BY	-

HEAD SPACING INFORMATION						
HEAD TYPE	SYMBOL	MIN DISTANCE BETWEEN SPK.	MAX DISTANCE BETWEEN SPK.	MAX COVERAGE SQ. FT.	MAX DISTANCE FROM WALL	MAXIMUM THROW
TYCO TY2534		5'-0"	27' x 27'	400	10'-0"	N/A
VIKING VK467		9'-0"	16' x 16'	256	6'-0"	N/A
TYCO TY3521		6'-0"	14' x 14'	196	7'-0"	N/A
TYCO TY3535		6'-0"	15' x 15'	225	7'-6"	N/A
PER SPRINKLER COMPANY SPECIFICATION DATA SHEETS						

Total Sprinkler Legend									
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Temp.
●	Tyco	TY2534	LFII	91	4.9	Concealed Pendent	1/2"	Fast	200°F
⊗	Viking	VK467	Freedom	22	4.9	Upright	1/2"	Fast	175°F
⊗	Tyco	TY3521	RFII	3	5.6	Horizontal Concealed Sidewall	1/2"	Quick	212°F
●	Tyco	TY3535	DS-C	5	5.6	Concealed Pendent	1"	Quick	200°F
				Total = 121					

GENERAL INFORMATION

1. INTERNATIONAL BUILDING CODE (2021)
- 1.1 ZONING: R1 SINGLE FAMILY RESIDENCE (UNSEWERED)
- 1.2 TYPE OF CONSTRUCTION: NEW CONSTRUCTION OF A 2-STORY SINGLE FAMILY HOUSE W/ BASEMENT
- 1.3 SPRINKLERED AREAS (APPROXIMATE - SEE ARCHITECTURAL PLANS FOR ACTUAL)
- 1.4 DESIGN & INSTALLATION STANDARDS: NFPA-13D (2013), NFPA (2019)
2. SPRINKLER PIPE TYPES:
- WET:
- 2.1 ALL THREADED PIPE TO BE SCHEDULE 40 BLACK STEEL w/ THREADED FITTINGS
- 2.2 ALL WELDED LINE & MAIN PIPING (SIZE 1 1/4") TO BE BLK SCHEDULE 10 w/ GROOVED FITTINGS
- DRY:
- 2.3 ALL THREADED PIPE TO BE SCHEDULE 40 BLACK STEEL w/ THREADED FITTINGS
- 2.4 ALL WELDED LINE & MAIN PIPING (SIZE 1 1/2") TO BE BLK SCHEDULE 10 w/ GROOVED FITTINGS
3. DESIGN CRITERIA:
- 3.1 ALL AREAS PROTECTED ACCORDING TO NFPA 13D WITH SPRINKLER FLOW DETERMINED BY REQUIREMENTS SET FORTH BY NFPA 13D AND SPRINKLER HEAD LISTING DATA. PIPING IS SIZED ACCORDINGLY BY HYDRAULIC CALCULATIONS. REFER TO SPRINKLER HEAD DATA SHEETS FOR DISCHARGE CRITERIA. SYSTEM DESIGNED USING A TANK AND PUMP SYSTEM FOLLOWING THE REQUIREMENTS SET FORTH BY NFPA 13D. 300 GALLON TANK REQUIRED TO MEET SYSTEM DEMAND OF 30 GPM FOR 10 MIN
- SPRINKLER PROTECTION IS PROVIDED FOR LIVING AREAS AND THE FOLLOWING AREAS PER 13D:
- CLOSETS OVER 24 S.F.
 - BATHROOMS OVER 55 S.F.
- SPRINKLER PROTECTION IS NOT PROVIDED FOR THE FOLLOWING AREAS:
- CLOSETS UNDER 24 S.F. PER 8.3.3
 - BATHROOMS UNDER 55 S.F. PER 8.3.2

4. NOTES:
- 4.1 INSULATION TO BE ADDED IN ROOF STRUCTURE TO PROTECT WET SYSTEM PIPE FROM COLD
- 4.2 ALL MATERIAL TO BE NEW AND MEET U.L. STANDARDS
- 4.3 HANGERS TO BE INSTALLED IN ACCORDANCE WITH NFPA 13 - SEE PLAN FOR HANGING REQUIREMENTS
- 4.4 ALL SPRINKLERS INSTALLED PER NFPA-13 & MFG. DESIGN DATA
- 4.5 ALL SPRINKLERS 200° F UNLESS NOTED OTHERWISE
- 4.6 ALL PIPING TO BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS
- 4.7 ALL RATED WALL PENETRATIONS TO BE FIRE CAULKED
- 4.8 ALL UNDERGROUND PIPING BY OTHERS
- 4.9 UNDERGROUND INSTALLATION, FLUSHING, AND TESTING TO BE PERFORMED BY OTHERS PRIOR TO CONNECTION TO SPRINKLER SYSTEM
- 4.10 ALL CEILING CONSTRUCTION TO BE GYP UNLESS NOTED OTHERWISE
- DRY SYSTEM PIPE SLOPE INSTALLATION
- SPRINKLER MAINS TO BE 1/4" PER 10'-0" (NONREFRIGERATED AREAS)
- SPRINKLER MAINS TO BE 1/2" PER 10'-0" (REFRIGERATED AREAS)
- SPRINKLER BRANCH LINES TO BE 1/2" PER 10'-0"
- DRY SYSTEM CAPACITY
- 15 GALLONS

5. SYMBOLS USED ON DRAWINGS:

- ★x4FF PIPE ELEVATION ABOVE FINISH FLOOR
- ★x4TS PIPE ELEVATION BELOW TOP OF STEEL
- OH1 ROOM HAZARD CLASSIFICATION (ALL ROOMS ARE CONSIDERED LIGHT HAZARD U.N.O.)
- HYDRAULIC CALCULATION JUNCTION POINT
- 9'-0" CEILING HEIGHT
- WET BLACK STEEL PIPE
- WET CPVC PIPE
- DRY BLACK STEEL PIPE

6. SCOPE OF WORK:

- 6.1 INSTALL A COMPLETE SINGLE ZONE WET FIRE SPRINKLER SYSTEM TO COVER ALL AREAS OF BUILDING
- 6.2 INSTALL A COMPLETE SINGLE ZONE DRY FIRE SPRINKLER SYSTEM TO COVER ALL AREAS OF BUILDING
- 6.3 ALL AREAS OF THE BUILDING TO BE INSTALLED AND COVERED IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION, AND NFPA 13D

OWNERS RESPONSIBILITY NOTE:

IT IS THE BUILDING OWNERS RESPONSIBILITY TO PROVIDE ADEQUATE HEAT FOR ALL AREAS CONTAINING WATER FILLED PIPES AND TO MAINTAIN THE SPRINKLER SYSTEM IN PROPER WORKING ORDER PER NFPA 25 AND LOCAL CODE

Hydraulic Information	
Remote Area #1	
OCCUPANCY CLASSIFICATION	Residential
DENSITY (gpm/ft ²)	0.05 for 900ft ² (Actual 248ft ²)
TOTAL HEADS FLOWING	2
K-FACTOR	4.9
TOTAL WATER REQUIRED	36.1
TOTAL PRESSURE REQUIRED	24.4
BASE OF RISER (gpm)	36.1
BASE OF RISER (psi)	24.4
SAFETY MARGIN (psi)	+24.5 (24529.9%)

BASEMENT SPRINKLER PLAN

SCALE: 1/4" = 1'-0"

Basement Level Sprinkler Legend									
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Note
●	Tyco	TY2534	LFII	7	4.9	Concealed Pendant	1/2"	Fast	Brass 200°F
⊗	Viking	VK467	Freedom	22	4.9	Upright	1/2"	Fast	Brass 175°F
▶	Tyco	TY3521	RFII	1	5.6	Horizontal Concealed Sidewall	1/2"	Quick	Brass 212°F
				Total = 30					

LICENSE # 1187131	LAKE GENEVA RESIDENCE N1973 DUCK CREEK PASS, LAKE GENEVA, WI 53147	WATER FLOW INFORMATION			
DATE: 10/27/2025		FLOW TEST DATE	-		
DRAWN BY: DA		FLOW TEST LOCATION	-		
	ELEVATION	-			
	STATIC PRESSURE	-			
SHEET NUMBER: FP1		RESIDUAL PRESSURE	-		
				FLOWING	-
				CONDUCTED BY	-

Pipe hangers shall be installed as required by NFPA for supporting sprinkler piping. No other piping and/or devices are to be attached to the sprinkler pipe hanger system unless the hanger has been specifically designed for the additional loading. THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.

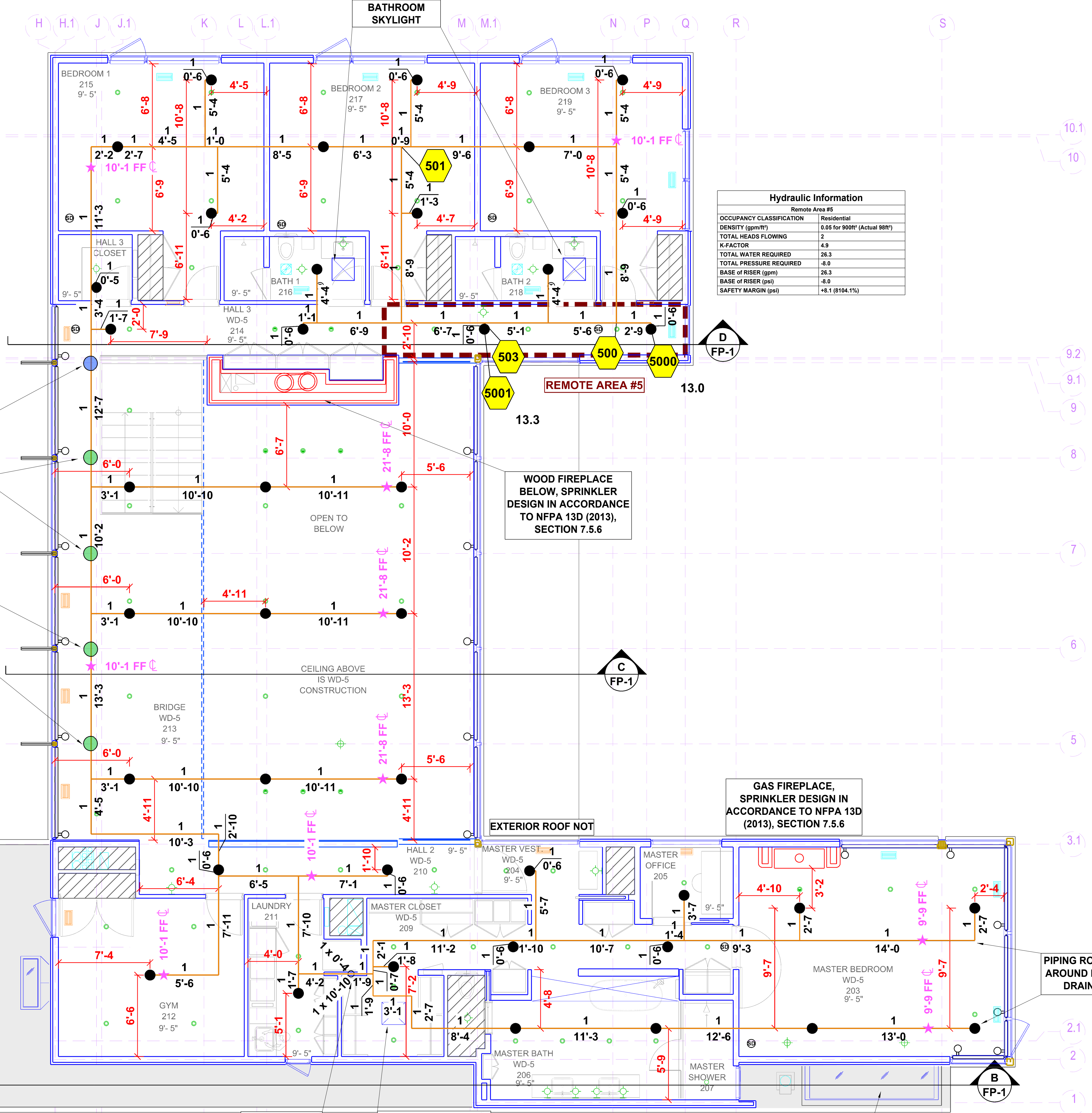
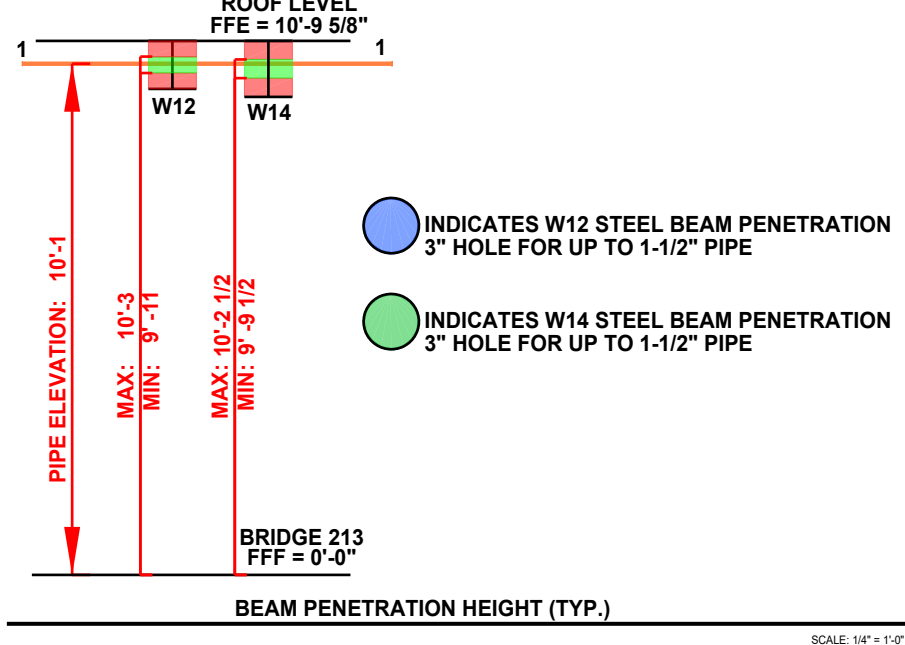
NFPA 13 TABLE 17.4.2.1(a) MAXIMUM DISTANCE BETWEEN HANGERS (ft-in.)

Note: IPS iron-pipe size; CTS-copper tube size.

Nominal Pipe Size (in.)	1/4"	1"	1-1/4"	1-1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
Steel pipe except threaded lightwall	N/A	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
Threaded Lightwall Steel pipe	N/A	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	N/A	N/A	N/A	N/A	N/A
Copper Tube	8'-0"	8'-0"	10'-0"	10'-0"	12'-0"	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
CPVC	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"	10'-0"	N/A	N/A	N/A	N/A	N/A

Total Sprinkler Legend									
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Temp.
●	Tyco	TY2534	LFII	91	4.9	Concealed Pendant	1/2"	Fast	200°F
⊗	Viking	VK467	Freedom	22	4.9	Upright	1/2"	Fast	175°F
▶	Tyco	TY3521	RFII	3	5.6	Horizontal Concealed Sidewall	1/2"	Quick	212°F
●	Tyco	TY3535	DS-C	5	5.6	Concealed Pendant	1	Quick	200°F
				Total = 121					

OWNERS RESPONSIBILITY NOTE:
IT IS THE BUILDING OWNERS RESPONSIBILITY
TO PROVIDE ADEQUATE HEAT FOR ALL
AREAS CONTAINING WATER FILLED PIPES AND
TO MAINTAIN THE SPRINKLER SYSTEM IN PROPER
WORKING ORDER PER NFPA 25 AND LOCAL CODE



Hydraulic Information	
Remote Area #5	
OCCUPANCY CLASSIFICATION	Residential
DENSITY (gpm/ft²)	0.05 for 900ft² (Actual 98ft²)
TOTAL HEADS FLOWING	2
K-FACTOR	4.9
TOTAL WATER REQUIRED	26.3
TOTAL PRESSURE REQUIRED	-8.0
BASE OF RISER (gpm)	26.3
BASE OF RISER (psi)	-8.0
SAFETY MARGIN (psi)	+8.1 (8104.1%)

Hydraulic Information	
Remote Area #4	
OCCUPANCY CLASSIFICATION	Residential
DENSITY (gpm/ft²)	0.05 for 900ft² (Actual 311ft²)
TOTAL HEADS FLOWING	2
K-FACTOR	4.9
TOTAL WATER REQUIRED	26.3
TOTAL PRESSURE REQUIRED	-14.5
BASE OF RISER (gpm)	26.3
BASE OF RISER (psi)	-14.5
SAFETY MARGIN (psi)	+14.6 (14644.2%)

Level Two Sprinkler Legend										
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature
●	Tyco	TY2534	LFII	50	4.9	Concealed Pendent	1/2"	Fast	Brass	200°F
				Total = 50						

LEVEL TWO SPRINKLER PLAN

SCALE: 1/4" = 1'-0"

Pipe hangers shall be installed as required by NFPA for supporting sprinkler piping.
No other piping and/or devices are to be attached to the sprinkler pipe hanger system
unless the hanger has been specifically designed for the additional loading.
THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL
STRENGTH OF THE BUILDING TO ENABLE IT TO CARRY THE LOAD OF THE FIRE PROTECTION SYSTEM.

NFPA 13 TABLE 17.4.2.1(a) MAXIMUM DISTANCE BETWEEN HANGERS (ft-in.)

Nominal Pipe Size (in.)	1/4"	1"	1-1/4"	1-1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"	8"
Steel pipe except threaded lightwall	N/A	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
Threaded Lightwall Steel pipe	N/A	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	N/A	N/A	N/A	N/A	N/A
Copper Tube	8'-0"	8'-0"	10'-0"	10'-0"	12'-0"	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
CPVC	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"	10'-0"	N/A	N/A	N/A	N/A	N/A

Total Sprinkler Legend										
Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Temp.	
●	Tyco	TY2534	LFII	91	4.9	Concealed Pendent	1/2"	Fast	200°F	
⊗	Viking	VK467	Freedom	22	4.9	Upright	1/2"	Fast	175°F	
⊗	Tyco	TY3521	RFII	3	5.6	Horizontal Concealed Sidewall	1/2"	Quick	212°F	
●	Tyco	TY3535	DS-C	5	5.6	Concealed Pendent	1"	Quick	200°F	
				Total = 121						

LICENSE # 1187131
DATE: 10/27/2025
DRAWN BY: DA
SHEET NUMBER: FPA

LAKE GENEVA RESIDENCE
N1973 DUCK CREEK PASS,
LAKE GENEVA, WI
53147

WATER FLOW INFORMATION	
FLOW TEST DATE	-
FLOW TEST LOCATION	-
ELEVATION	-
STATIC PRESSURE	-
RESIDUAL PRESSURE	-
FLOWING	-
CONDUCTED BY	-

HEAD SPACING INFORMATION					
HEAD TYPE	SYMBOL	MIN. DISTANCE BETWEEN SPK.	MAX. DISTANCE BETWEEN SPK.	MAX. COVERAGE SQ. FT.	MAX. DISTANCE FROM WALL
TYCO TY2534		8'-0"	22' x 20'	480	10'-0"
PER SPRINKLER COMPANY SPECIFICATION DATA SHEETS					