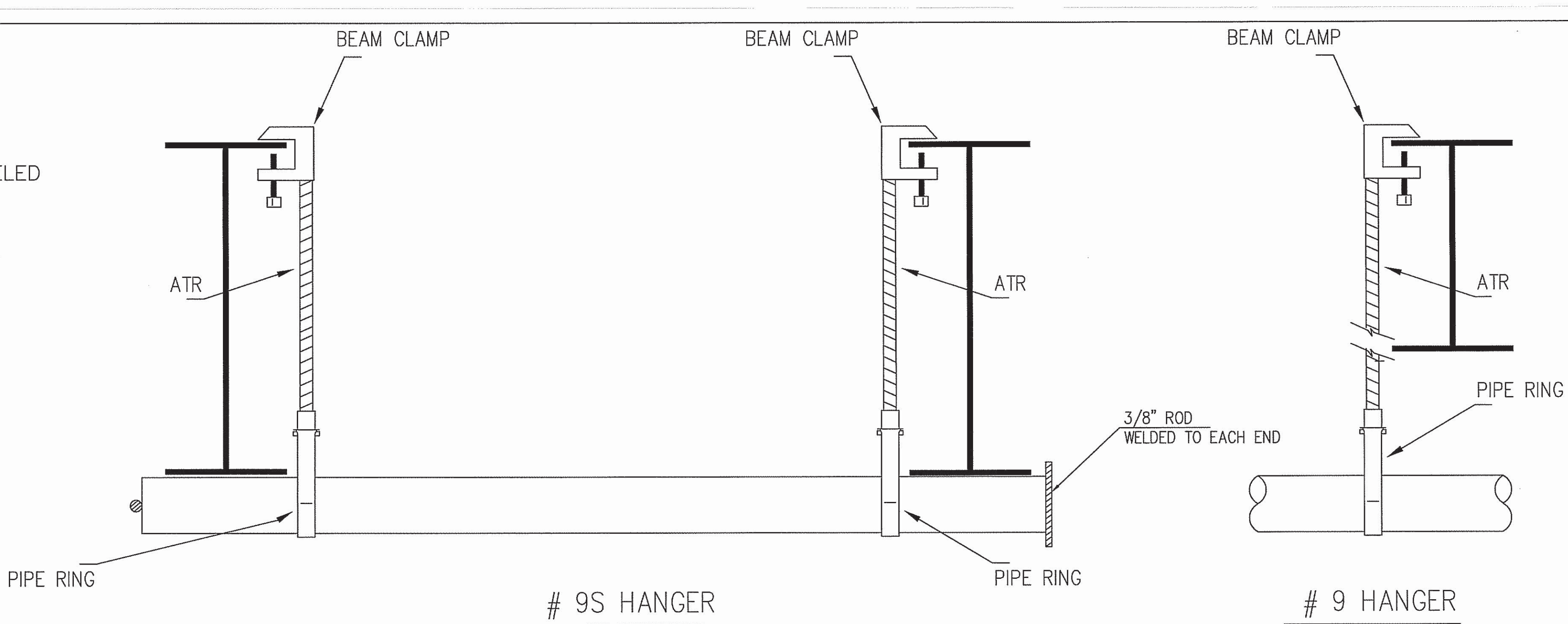


Project Name: Good Hope Behavioral Urgent Care		System: Wet
Project Street Address: 410 Dentin Drive		Sys. Sq. Ft.: n/a
Suite:	Floor#:	Ceiling Height: Varies
Designed by: Carolina Fire Protection	Phone: (910)-892-1700	Total Bldg. Hgt.: 24'-0"
Occupancy: Hospital / Mechanical mezzanine	Hazard: Light Hazard / Ordinary Hazard Group 1	

	Single Line	Offices	Attic
Design Method	HYDRAULIC CALC.	HYDRAULIC CALC.	HYDRAULIC CALC.
Design Area #	1	2	3
Location	Remote Area #1	Remote Area #2	Remote Area #3
Type of System	Wet System	Wet System	Wet System
Hazard Class	Light	Light	Ordinary Group 1
Criteria From	NFPA 13	NFPA 13	NFPA 13
Design Area	300 Sq.Ft.	1043	1340
Sprinkler Spacing	225 sqft	225 sqft	130 sqft
Density	.10	.10	.15
	5.8	5.8	5.8
Hose Allowance	100	100	200
# Design Sprinklers	4	12	16
Special App. Spk.	N/A	N/A	N/A
Requirement @	BASR	BASR	BASR
G.P.M. Req'd	179.718	311.14	298.59
P.S.I. Req'd	36.152	30.73	35.75
Safety Factor @	TEST	TEST	TEST
Safety Factor (psi)	10.47 psi 22.5%	14.35 psi 31.2%	7.47 psi 17.0%
System Sq Ft	14.772	14.772	14.772
Dry Sys. Vol. (gal)	n/a	n/a	n/a

Tested by	Carolina Fire Protection	Date/Time	9/10/25	Pressure Hydrant	
Hydrant Elevation					
Static (PSI)	47 psi	Residual (PSI)	42 psi	Flow (gpm)	729

- SCOPE OF WORK REMOVE EXISTING 4" GROOVED CAP AT END OF EXISTING CEILING AND INSTALLING NEW WET TYPE SPRINKLER THRU OUT EXISTING BUILDING THAT IS BEING RENOVATED.
- DESIGN FOR THE HOSPITAL AREA-A, 0 GPM DENSITY OVER 1043 SQ.FT. AREA PLUS 100 GPM FOR HOSE ALLOWANCE FOR ALARM HAZARD EQUIVALENT DENSITY 250 SQ. FT.
- DESIGN FOR THE MECHANICAL MEZZANINE DENSITY OF .15 OVER 1400 SQUARE FOOT AREA PLUS 250 GPM FOR HOSE ALLOWANCE FOR ORDINARY HAZARD OCCUPANCY. MAXIMUM SPACING 130 SQ.FT..
- ALL WORK WILL BE INSTALLED IN ACCORDANCE WITH NFPA 13, 2013 EDITION
- 1" PIPE TO BE SCHEDULE 40 BLACK STEEL PIPE.
- 1/2" THRU 4" PIPE TO BE SCHEDULE 10 BLACK STEEL PIPE.
- INSTALL BAGS OVER UPRIGHT SPRINKLERS IN MECHANICAL MEZZANINE. ONCE INSULATION IS SPRAYED AT ROOF THE BAGS ARE TO BE REMOVED.
- SEE SECTION OB SHEET PP-5 SHOWING WHERE THERE IS NO PENETRATION ALLOWED THRU MEZZANINE FLOOR

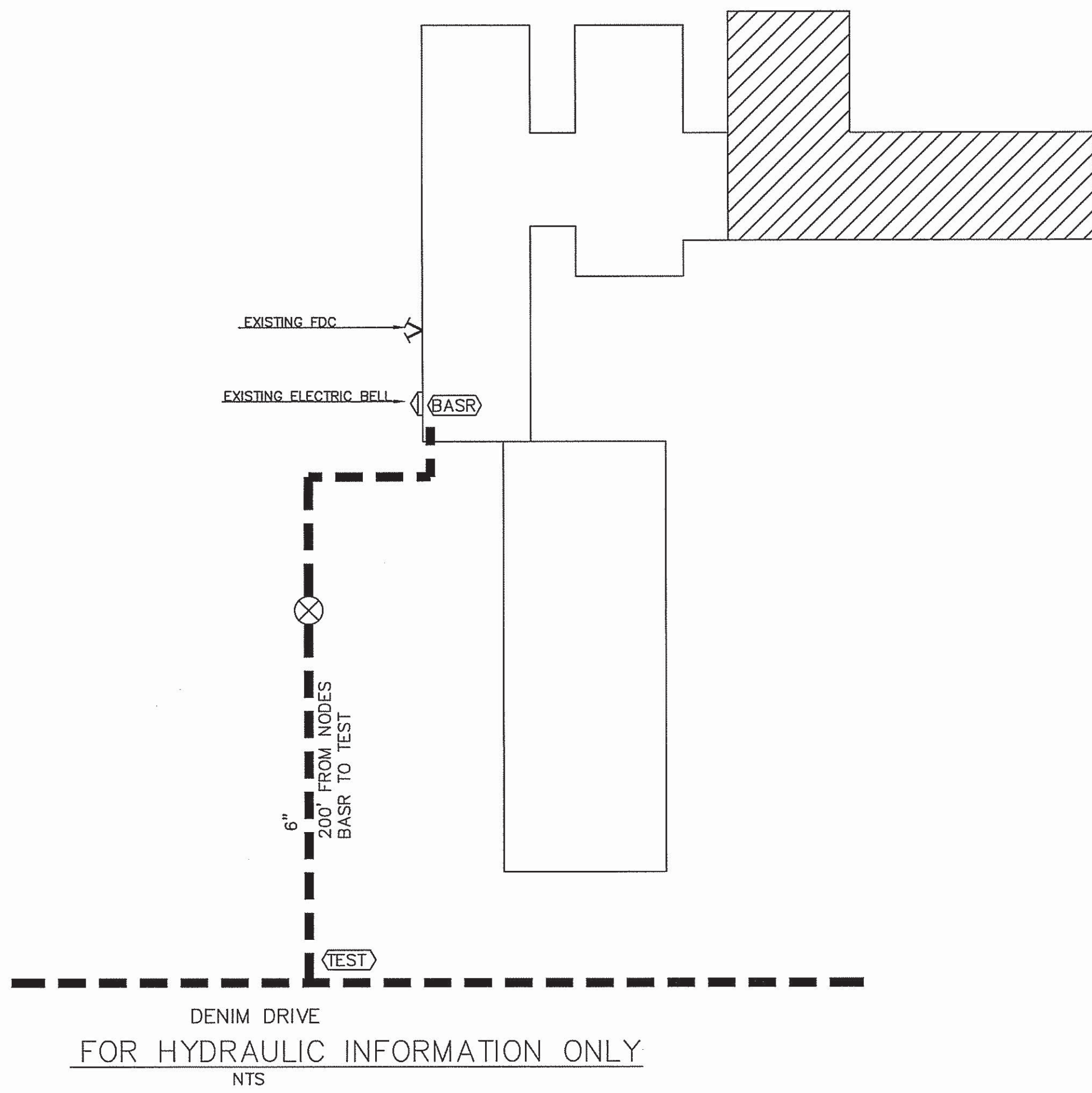
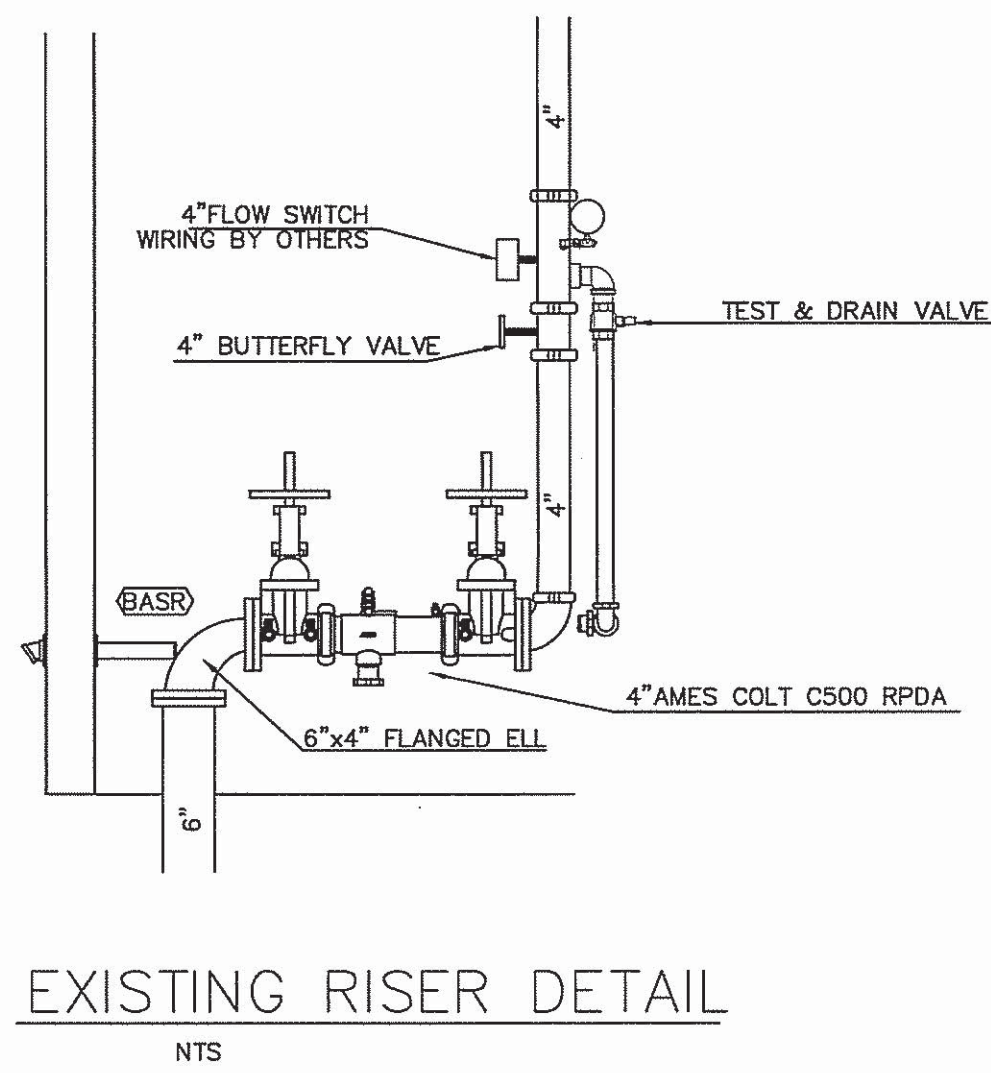
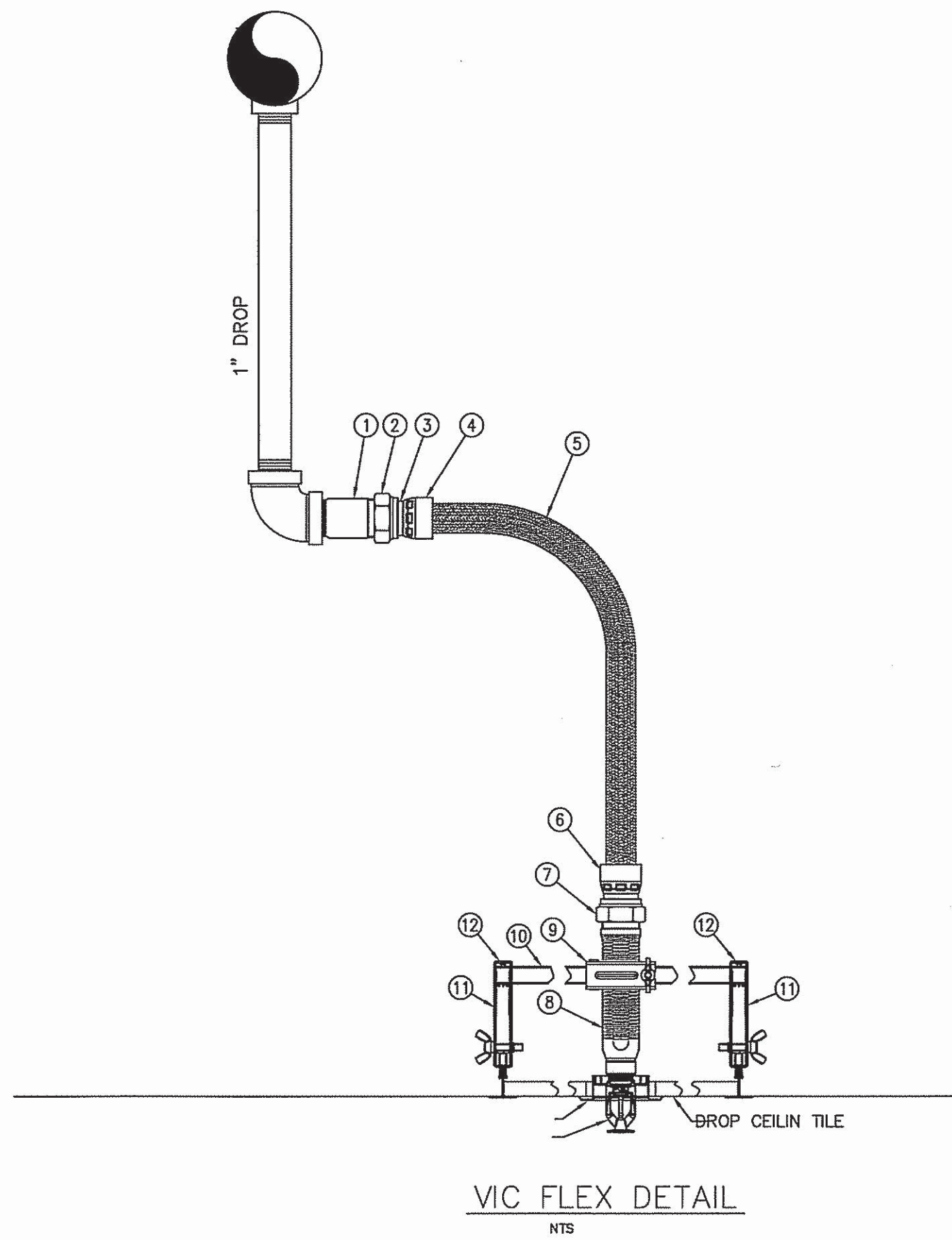


HANGER INSTALLATION REQUIREMENTS									
MAXIMUM DISTANCE BETWEEN HANGERS									
NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	
BLAZEMASTER CPVC	5' 6"	6' 0"	6' 6"	7' 0"	8' 0"	9' 0"	10' 0"	N/A	N/A
THREADABLE LIGHTWALL	N/A	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	12' 0"	N/A	N/A
STEEL PIPE (10/ 40)	N/A	12' 0"	12' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"	15' 0"

THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP SHALL NOT EXCEED 24"

- SCOPE OF WORK REMOVE EXISTING 4" GROOVED CAP AT END OF EXISTING CEILING AND INSTALLING NEW WET TYPE SPRINKLER THRU OUT EXISTING BUILDING THAT IS BEING RENOVATED.
- DESIGN FOR THE HOSPITAL AREA-A, 0 GPM DENSITY OVER 1043 SQ.FT. AREA PLUS 100 GPM FOR HOSE ALLOWANCE FOR ALARM HAZARD EQUIVALENT DENSITY 250 SQ. FT.
- DESIGN FOR THE MECHANICAL MEZZANINE DENSITY OF .15 OVER 1400 SQUARE FOOT AREA PLUS 250 GPM FOR HOSE ALLOWANCE FOR ORDINARY HAZARD OCCUPANCY. MAXIMUM SPACING 130 SQ.FT..
- ALL WORK WILL BE INSTALLED IN ACCORDANCE WITH NFPA 13, 2013 EDITION
- 1" PIPE TO BE SCHEDULE 40 BLACK STEEL PIPE.
- 1/2" THRU 4" PIPE TO BE SCHEDULE 10 BLACK STEEL PIPE.
- INSTALL BAGS OVER UPRIGHT SPRINKLERS IN MECHANICAL MEZZANINE. ONCE INSULATION IS SPRAYED AT ROOF THE BAGS ARE TO BE REMOVED.
- SEE SECTION OB SHEET PP-5 SHOWING WHERE THERE IS NO PENETRATION ALLOWED THRU MEZZANINE FLOOR

Reviewed for Fire Code Compliance
 Roger Sullivan
 09/30/2025 10:10:27 AM



NO.	DATE	BY	REVISIONS - SEE FLAGGED AREA ON PLAN

IMPORTANT		CONTRACT RESPONSIBILITIES		SYMBOLS		ABBREVIATIONS		SYSTEM TYPE		APPROVALS		TOTAL SPRINKLERS SHOWN ON THIS SHEET		TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT	
ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS	ITEM	C.F.P./OTHERS
STREET WATER CONNECTION	BY OTHERS	CEILING HT. ABOVE REIF.	BY OTHERS	GATE VALVE (SEE NOTES)	BY OTHERS	ELECTRIC BELL	BY OTHERS	UPRIGHT	200"	5.6	57	0	0	0	0
UNDERGROUND WATER MAINS	BY OTHERS	8" G. PIPE BELOW BOB	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	UPRIGHT ON SPRIG UP	200"	5.6	25	0	0	0	0
EXCAVATIONS	BY OTHERS	CH. OF PIPE ABOVE REIF.	BY OTHERS	FLOW SWITCH (FS)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	CONCEALED SPACE UPRIGHT ON SPRIG UP	200"	5.6	4	0	0	0	0
BACKFILL	BY OTHERS	HYDRANT REIF. POINT	BY OTHERS	MONITOR SWITCH (MS)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	RECESSED PENDENT	155"	5.6	68	0	0	0	0
WIRING	BY OTHERS	MAN DESIGNATION	BY OTHERS	BUTTERFLY VALVE	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	DRY PENDENT	155"	5.6	2	0	0	0	0
PAINTING	BY OTHERS	MAIN DISLOCATION	BY OTHERS	ALARM VALVE (ALV)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					16	0	0	0
		HANGER	BY OTHERS	POST INDICATOR VALVE (PIV)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0
		UNION	BY OTHERS	KEY GATE SECTIONAL VALVE	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0
		GROOVED COUPLING (GC)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0
		SCREWED CAP	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0
		GROOVED CAP	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0
		SCREWED PLUG	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0
		FLANGED CONNECTION	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS	WATER METER (SEE NOTES)	BY OTHERS					0	0	0	0

IN LOCATIONS THAT ARE SUBJECT TO FREEZING CONDITIONS, IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT THROUGHOUT AREAS PROTECTED BY WET PIPE SPRINKLER SYSTEMS AND IN ENCLOSURES FOR DRY PIPE, DELUGE OR OTHER TYPES OF VALVES CONTROLLING WATER TO SPRINKLER SYSTEMS.

This drawing including all information and design content herein contained is the property of Carolina Fire Protection Company, Inc. and is loaned upon express conditions that the same be returned to CFP, Inc. upon request; all information contained herein shall be treated as secret, and confidential; no reproduction of this drawing or any part thereof shall be made without written consent of CFP, Inc.



CAROLINA FIRE PROTECTION
4055 HOGES CAPHILL ROAD
Dunn, N.C. 28334
Phone (910) 892-1700
Fax (910) 892-7322

CONTRACT WITH: **STE. GENERAL CONTRACTORS**

DESCRIPTION: **INFORMATION**

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

CONTRACT NO: **250301**

DRAWN BY: **WMF**

DRAWING NO: **FP 1 of 5**

PROJECT: **NC**

CLASSIFICATION: **NC**

LOCATION: **CONCRETE**

DESIGN AREA: **NO. 10.17**

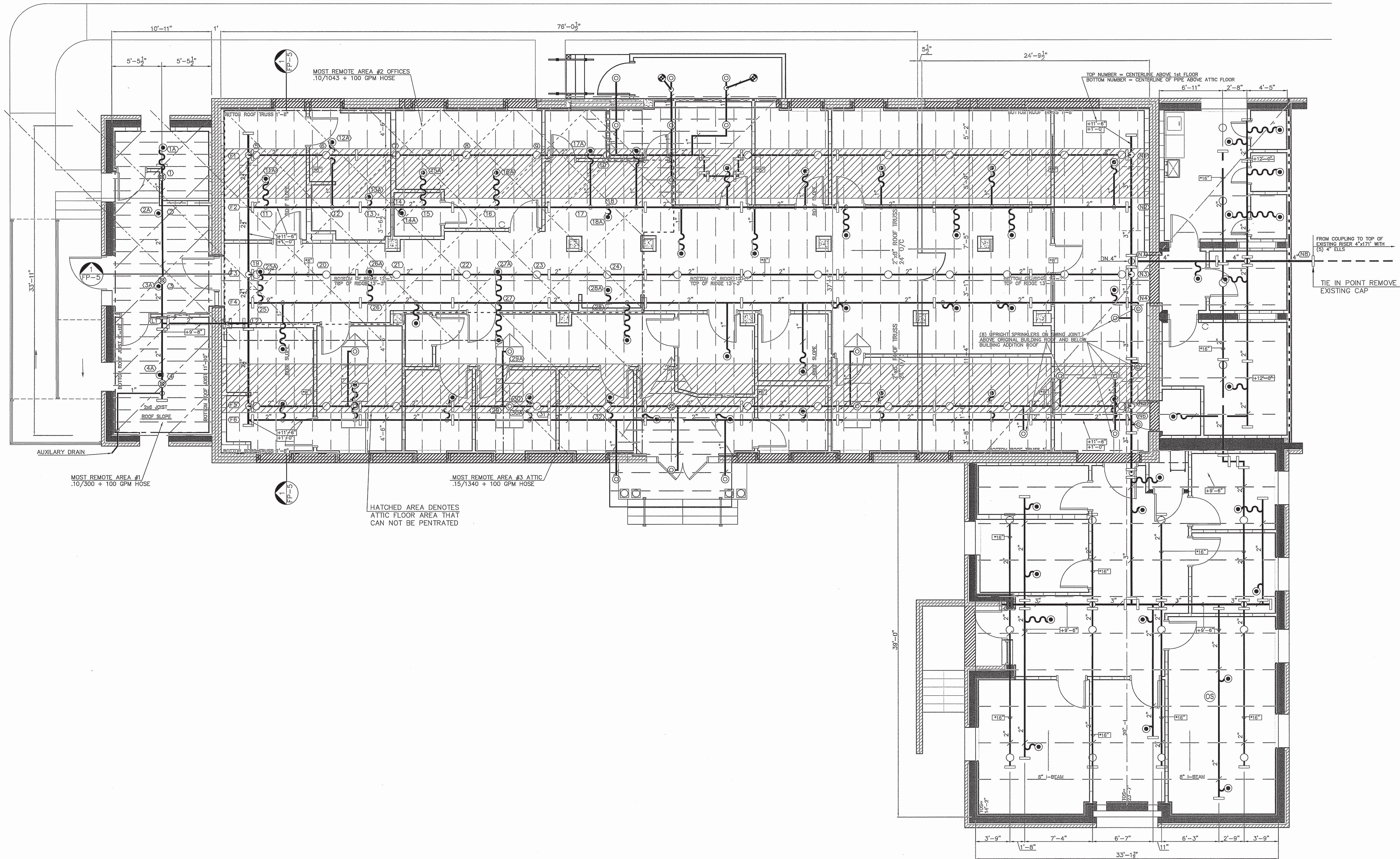
AREA OF APPLICATION: **NO. 10.17**

TOTAL SYSTEM: **NO. 10.17**

WATER SUPPLY: **NO. 10.17**

CLIMATE: **NO. 10.17**

SEE HYDRAULIC DATA PAGE



IMPORTANT

In locations that are subject to freezing conditions, it is the owner's responsibility to provide heat throughout areas protected by wet pipe sprinkler systems and in enclosures for dry pipe, deluge or other types of valves controlling water supplies to sprinkler systems.

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CONTRACT RESPONSIBILITIES

ITEM	C.F.P. / OTHERS
STREET WATER CONNECTION	BY OTHERS
UNDERGROUND WATER MAINS	BY OTHERS
EXCAVATIONS	BY OTHERS
BACKFILL	BY OTHERS
WIRING	BY OTHERS
PAINTING	BY OTHERS

SYMBOLS

CEILING HT. ABOVE REF.	GATE VALVE (SEE NOTES)	ELECTRIC BELL
CIL. OF PIPE BELOW BOB	FIRE HOSE ASSEMBLY	WATER MOTOR GONG (W.M.G.)
CIL. OF PIPE ABOVE REF.	FLOW SWITCH (FS)	FIRE DEPT. CONN. (STANDARD)
HYDRAULIC REF. POINT	MONITOR SWITCH	FIRE DEPT. CONN. (FLUSH)
LINE DESIGNATION	BUTTERFLY VALVE	NOT IN CONTRACT
MAIN DESIGNATION	ALARM VALVE (ALV)	NIPPLE AND CAP
HANGER	POST INDICATOR VALVE (PIV)	Not to Scale
UNION	DRY PIPE VALVE	Open Bar Joint
GROOVED COUPLING (GC)	WATER CHECK VALVE	Pressure Red. Valve
SCREWED CAP	SWING CHECK VALVE	Roof Manifold
GROOVED CAP	INSPECTOR'S TEST	Standpipe
SCREWED FLUG	GLOBE VALVE	Top of Pipe
FLANGED CONNECTION	ANGLE VALVE	Top of Steel

ABBREVIATIONS

BOB	Bottom of Beam
BOD	Bottom of Deck
BOF	Bottom of Floor
DO	Ditto
HV	Hose Valve
N/C	Not in Contract
N & C	Nipple and Cap
NTS	Not to Scale
ORV	Open Bar Joint
PRV	Pressure Red. Valve
RM	Roof Manifold
SP	Standpipe
TOP	Top of Pipe
TOS	Top of Steel
UNO	Unless Noted Otherwise

SYSTEM TYPE

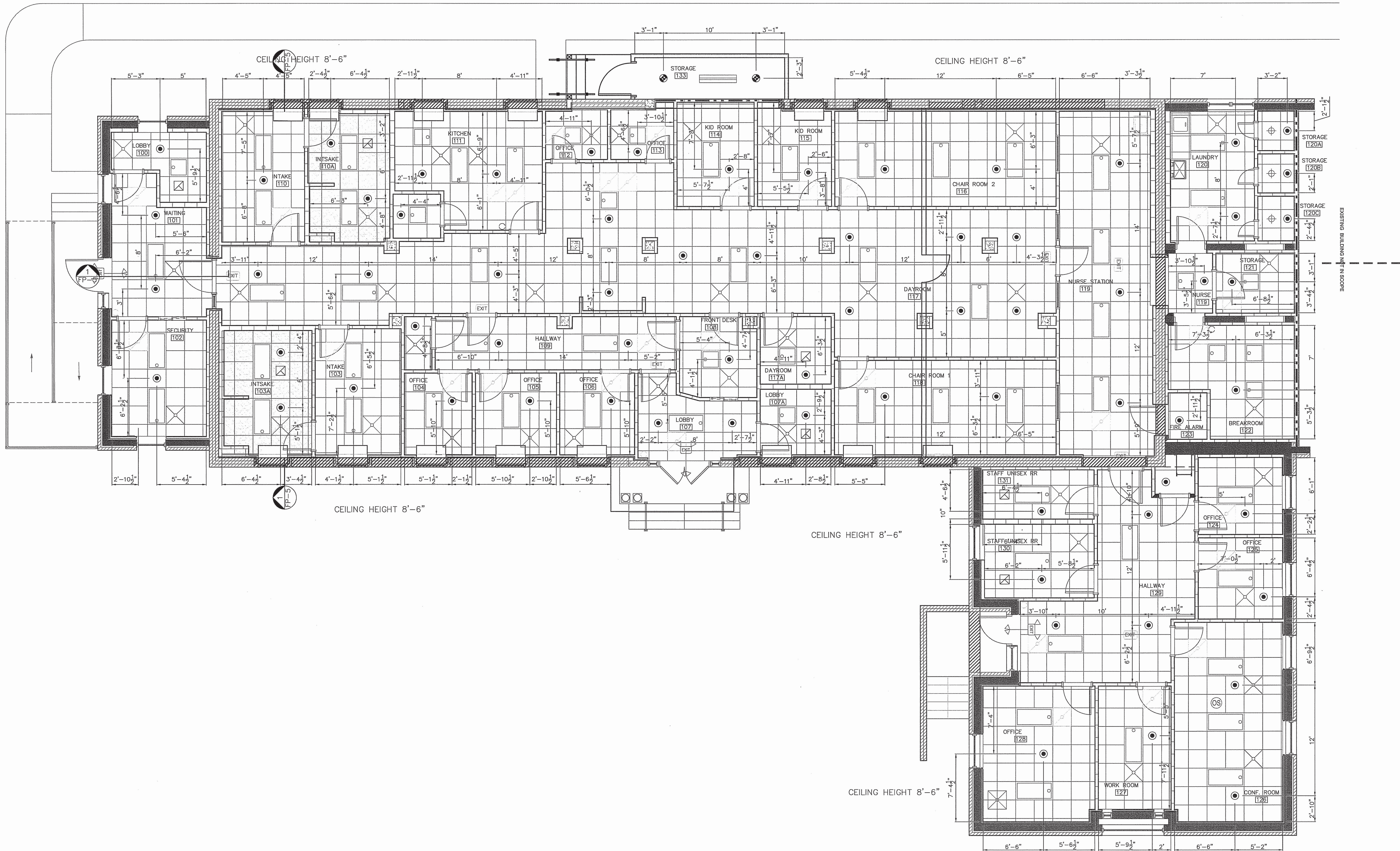
WET	☒ DELUGE	☐
DRY	☐ PREACTION	☐
APPROVALS		
☐ ISO	OUT	IN
☐ IFR	OUT	IN
☐ FM	OUT	IN
☐	OUT	IN



SPRINKLER SYMBOL DESCRIPTION							
SYMBOL	SIZE	MODEL	MAKE	SN	FINISH	STYLE	TEMP
○	1/2"	QR	VICTUALIC	V2704	BRASS	UPRIGHT	200°
⊙	1/2"	QR	VICTUALIC	V2704	BRASS	UPRIGHT ON SPRIG UP	200°
⊗	1/2"	QR	VICTUALIC	V5608	BRASS	CONCEALED SPACE UPRIGHT ON SPRIG UP	200°
⊕	1/2"	QR	VICTUALIC	V2708	WHITE	RECESSED PENDENT	155°
⊖	1/2"	QR	VICTUALIC	V3614	WHITE	DRY PENDENT	155°
TOTAL SPRINKLERS SHOWN ON THIS SHEET							166
TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT							164



CONTRACT NAME: GOOD HOPE HOSPITAL		CHECKED BY: J. STRICKLAND	
CONTRACT WITH: STF. GENERAL CONTRACTORS		DATE: 9/11/25	
DESCRIPTION: PIPING PLAN		SCALE: 1/4"=1'-0"	
SYSTEM DESIGN DATA		CONTRACT NO: 25G031	
DESIGNER: CFP, INC.		DRAWN BY: WMF	
DATE: 9/11/25		DRAWING NO. FP 2 of 5	



EXISTING BUILDING NOT IN SCOPE

NO.	DATE	BY	REVISIONS - SEE FLAGGED AREA ON PLAN

CONTRACT NAME: GOOD HOPE HOSPITAL BEHAVIORAL URGENT CARE 410 JENNIFER DRIVE BRYAN, NC	CHECKED BY: J. STRICKLAND DATE: 9/11/25
CONTRACT WITH: STE. GENERAL CONTRACTORS DESCRIPTION: CEILING PLAN	SCALE: 1/4"=1'-0"
SYSTEM DESIGN DATA FLOOR: CEILING HEIGHT: SYSTEM AREA: TOTAL SYSTEM AREA: TOTAL SYSTEM VOLUME: TOTAL SYSTEM WEIGHT: TOTAL SYSTEM COST: TOTAL SYSTEM MAINTENANCE: TOTAL SYSTEM REPLACEMENT: TOTAL SYSTEM DISPOSAL:	CONTRACT NO.: 250031 DRAWN BY: WMF DRAWING NO.: FP 3 of 5

CAROLINA FIRE PROTECTION
4055 HODGES CHAPEL ROAD
Dunn, N.C. 28334
Phone (910) 892-1700
Fax (910) 892-7322

SPRINKLER SYMBOL DESCRIPTION									
SYMBOL	SIZE	MODEL	MAKE	SIN	FINISH	STYLE	TEMP	K-FACTOR	TOTAL
○	1/2"	QR	VICTUALIC	V2704	BRASS	UPRIGHT	200°	5.6	57
⊙	1/2"	QR	VICTUALIC	V2704	BRASS	UPRIGHT ON SPRIG UP	200°	5.6	25
⊗	1/2"	QR	VICTUALIC	V5608	BRASS	CONCEALED SPACE UPRIGHT ON SPRIG UP	200°	5.6	4
⊕	1/2"	QR	VICTUALIC	V2708	WHITE	RECESSED PENDENT	155°	5.6	68
⊖	1/2"	QR	VICTUALIC	V3614	WHITE	DRY PENDENT	155°	5.6	2
TOTAL SPRINKLERS SHOWN ON THIS SHEET							70		
TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT							156		



IMPORTANT

In locations that are subject to freezing conditions, it is the owner's responsibility to provide heat throughout areas protected by wet pipe sprinkler systems and in enclosures for dry pipe, deluge or other types of valves controlling water supplies to sprinkler systems.

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CONTRACT RESPONSIBILITIES

ITEM	C.F.P. / OTHERS
STREET WATER CONNECTION	BY OTHERS
UNDERGROUND WATER MAINS	BY OTHERS
EXCAVATIONS	BY OTHERS
BACKFILL	BY OTHERS
WIRING	BY OTHERS
PAINTING	BY OTHERS

SYMBOLS

CEILING HT. ABOVE REF. (13)
C/L OF PIPE BELOW BOD (12-2)
HYDRAULIC REF. POINT (10)
LINE DESIGNATION
MAIN DESIGNATION
HANGER
UNION
GROOVED COUPLING (GC)
SCREWED CAP
GROOVED CAP
SCREWED PLUG
FLANGED CONNECTION

GATE VALVE/SEE NOTES
FIRE HOSE ASSEMBLY
FLOW SWITCH (FS)
MONITOR SWITCH
BUTTERFLY VALVE
ALARM VALVE (ALV)
DRY PIPE VALVE
WATER CHECK VALVE
SWING CHECK VALVE
SYSTEM RISER
INSPECTOR'S TEST
GLOBE VALVE
ANGLE VALVE

ELECTRIC BELL
WATER MOTOR GONG (W.M.G.)
FIRE DEPT. COIN (STANDARD)
FIRE DEPT. COIN (FLUSH)
Ditto
Hose Valve
N & C Nipple and Cap
Not In Contract
NTS Not to Scale
CBJ Open Bar Joint
PRV Pressure Red. Valve
RM Roof Manifold
SP Standpipe
TOS Top of Beam
TOS Top of Pipe
TOS Top of Slab
UNO Unless Noted Otherwise

ABBREVIATIONS

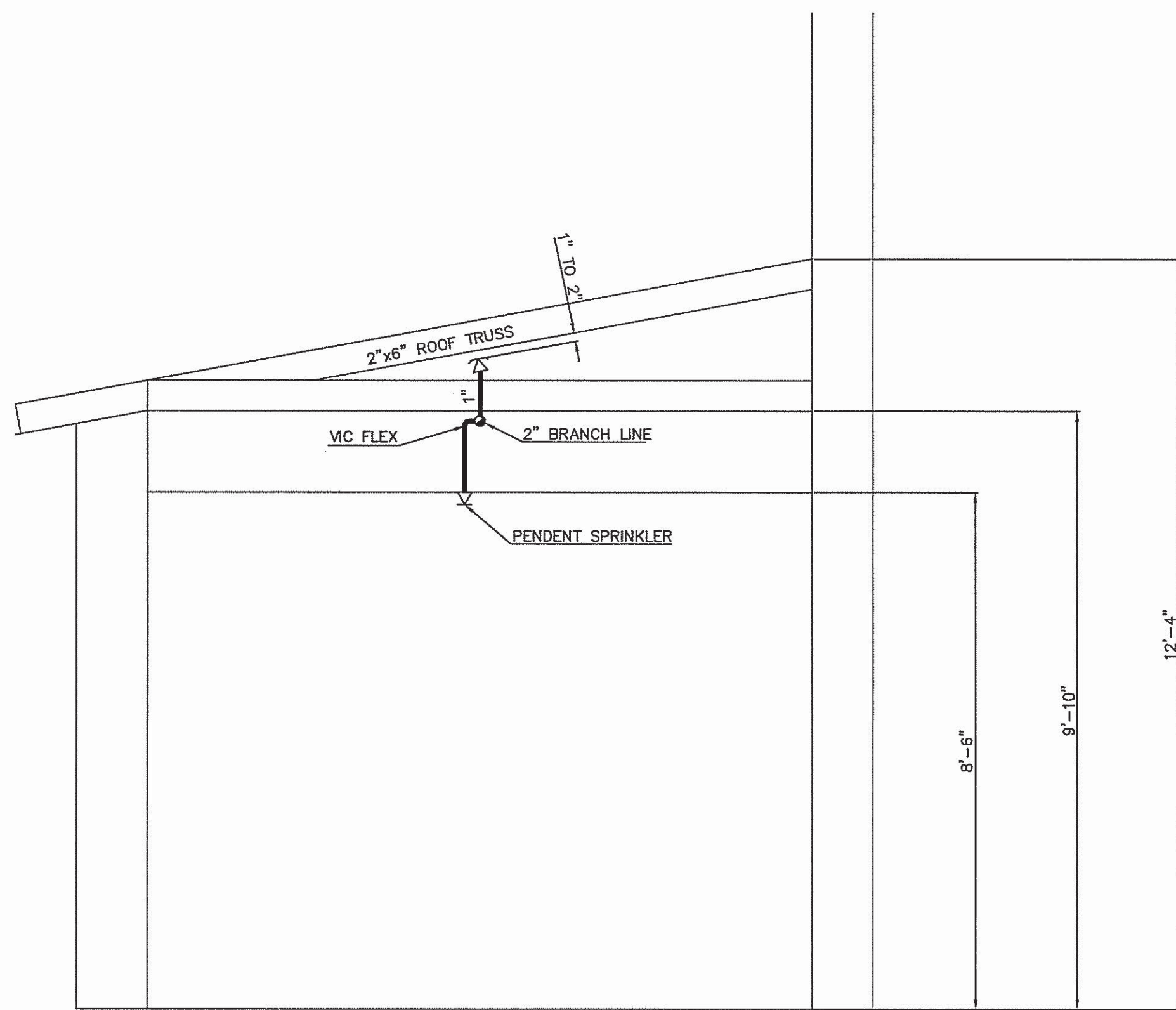
BOD Bottom of Beam
BOP Bottom of Pipe
DO Ditto
H V Hose Valve
N & C Nipple and Cap
NTS Not to Scale
CBJ Open Bar Joint
PRV Pressure Red. Valve
RM Roof Manifold
SP Standpipe
TOS Top of Beam
TOS Top of Pipe
TOS Top of Slab
UNO Unless Noted Otherwise

SYSTEM TYPE

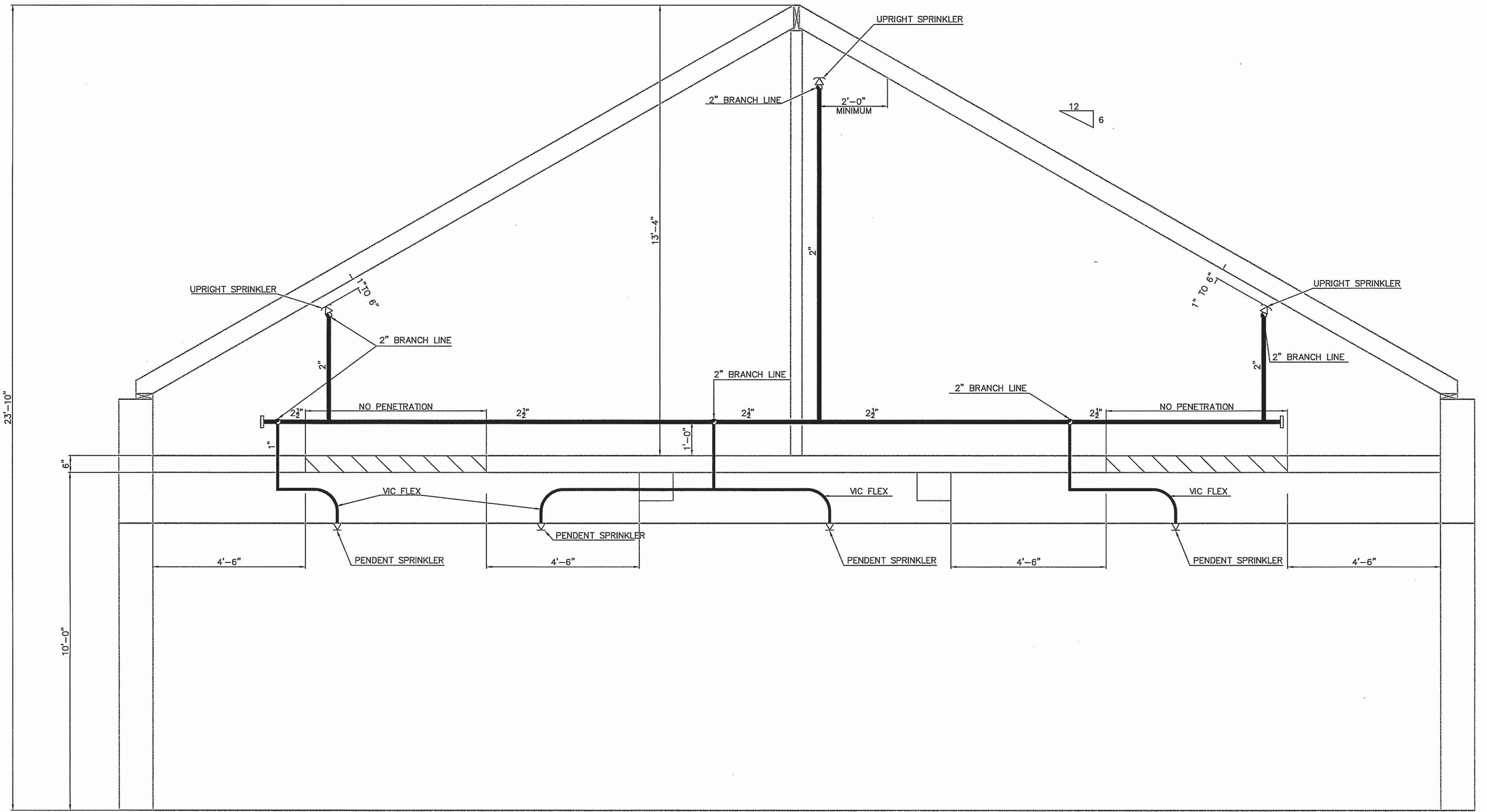
WET ☒ DELUGE ☐
DRY ☐ PREACTION ☐

APPROVALS

☐ ISO ☐ GUE ☐ IN
☐ FR1 ☐ GUE ☐ IN
☐ FM ☐ GUE ☐ IN
☐ ☐ GUE ☐ IN



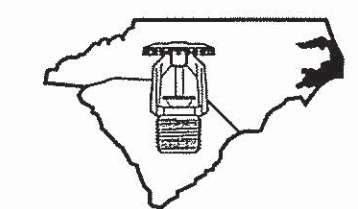
1 CROSS SECTION
1/2"=1'-0"



2 CROSS SECTION
1/2"=1'-0"

NO.	DATE	BY	REVISIONS - SEE FLAGGED AREA ON PLAN

CONTRACT NAME: GOOD HOPE HOSPITAL BEHAVIORAL URGENT CARE 410 DENIM DRIVE ERTW, NC	CHECKED BY: J.STRICKLAND
CONTRACT WITH: STE. GENERAL CONTRACTORS	DATE: 9/11/25
DESCRIPTION: SECTION	SCALE: 1/4"=1'-0"
SYSTEM DESIGN DATA	CONTRACT NO: 25G031
DRAWN BY: WMF	DRAWING NO. FP 5 of 5



4055 HODGES CHAPEL ROAD
Dunn, N.C. 28334
Phone (910) 892-1700
Fax (910) 892-7322

SPRINKLER SYMBOL DESCRIPTION									
SYMBOL	SIZE	MODEL	MAKE	SIN	FINISH	STYLE	TEMP	K-FACTOR	TOTAL
○	1/2"	QR	VICTUALIC	V2704	BRASS	UPRIGHT	200°	5.6	57
⊙	1/2"	QR	VICTUALIC	V2704	BRASS	UPRIGHT ON SPRIG UP	200°	5.6	25
⊗	1/2"	QR	VICTUALIC	V5608	BRASS	CONCEALED SPACE UPRIGHT ON SPRIG UP	200°	5.6	4
⊕	1/2"	QR	VICTUALIC	V2708	WHITE	RECESSED PENDENT	155°	5.6	68
⊖	1/2"	QR	VICTUALIC	V3614	WHITE	DRY PENDENT	155°	5.6	2
TOTAL SPRINKLERS SHOWN ON THIS SHEET							0		
TOTAL SPRINKLERS REQUIRED ON THIS CONTRACT							156		



IMPORTANT In locations that are subject to freezing conditions, it is the owner's responsibility to provide heat throughout areas protected by wet pipe sprinkler systems and in enclosures for dry pipe, deluge or other types of valves controlling water supplies to sprinkler systems. This drawing including all information and design concept herein contained is the property of Carolina Fire Protection Company, Inc. and is loaned upon express conditions that the same be returned to CFP, Inc. upon request; all information contained herein shall be treated as secret, and confidential; no reproduction of this drawing or any part thereof shall be made without written consent of CFP, Inc.	CONTRACT RESPONSIBILITIES		SYMBOLS				ABBREVIATIONS	SYSTEM TYPE	
	ITEM	C.F.P. / OTHERS	②	CEILING HT. ABOVE REF.	⊕	GATE VALVE (SEE NOTES)	⚡	ELECTRIC BELL	WET ☒ DELUGE ☐ DRY ☐ PREACTION ☐
	STREET WATER CONNECTION	BY OTHERS	*1.3	CL. OF PIPE BELOW BOP	⊖	FIRE HOSE ASSEMBLY	⚙	WATER MOTOR GONG (WMG)	
	UNDERGROUND WATER MAINS	BY OTHERS	[12-1]	CL. OF PIPE ABOVE REF.	⊗	FLOW SWITCH (FS)	⚙	FIRE DEPT. CONN. (STANDARD)	
	EXCAVATIONS	BY OTHERS	(H)	HYDRAULIC REF. POINT	⊙	MONITOR SWITCH	⚙	FIRE DEPT. CONN. (FLUSH)	
	BACKFILL	BY OTHERS	A1	LINE DESIGNATION	⊕	BUTTERFLY VALVE	⚙	FIRE DEPT. CONN. (SIDEWALK)	
	WIRING	BY OTHERS	⊕	MAIN DESIGNATION	⊖	ALARM VALVE (ALV)	⚙	POST INDICATOR VALVE (PIV)	
	PAINTING	BY OTHERS	⊕	HANDER	⊕	DRY PIPE VALVE	⚙	KEY GATE SECTIONAL VALVE	
			⊕	UNION	⊕	WATER CHECK VALVE	⚙	WITH ROADWAY BOX	
			⊕	GROOVED COUPLING (GC)	⊕	SWING CHECK VALVE	⚙	FIRE HYDRANT (3 WAY)	
⊕			SCREWED CAP	⊕	SYSTEM RISER	⚙	THRUST BLOCK		
⊕			GROOVED CAP	⊕	INSPECTOR'S TEST	⚙	2x4 WAY SEISMIC BRACING		
⊕			SCREWED PLUG	⊕	GLOBE VALVE	⚙	TOP		
⊕			FLANGED CONNECTION	⊕	ANGLE VALVE	⚙	TDOS		
				⊕		⚙	Top of Steel		
		⊕		⚙	UNO				
							UNLESS NOTED OTHERWISE		



Fire Marshal Division

P.O. Box 370
Lillington, NC 27546
910-893-7580

Application for Plan Review

Permit Type: Automatic Fire Extinguishing System - Fixed Fire Suppression Systems/Sprinkler

Date Received: _____ Received By: _____

Name of Project: Good Hope Hospital

Physical Address of Project: 410 Denim Drive

Plans Submitted By: Mark Ford

Project Phone: (910)-892-1700

Contact Person/Address: Mark Ford

PO Box 250 Dunn, NC 28335

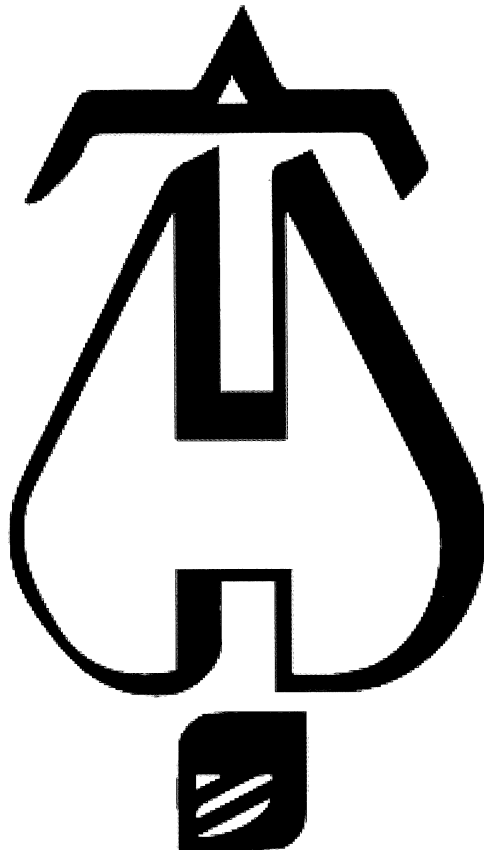
Contact Phone: (910)-892-1700 (____)-____-____

Contractor's Name/Info: Carolina Fire Protection, Inc.

Contractor's Phone: (910)-892-1700

Contact Email: mford@carolinafireprotection.com

- **Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.**
- **Status checks may be conducted on plan reviews by visiting the website <http://hteweb.harnett.org/Click2GovBP/Index.jsp> or by calling the Harnett County Central Permitting Office (910-893-7525 : Opt. 2), or the Harnett County Fire Marshal's Office (910-893-7580).**
- **Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.**



Hydraulic Calculations by HydraCALC

Carolina Fire Protection, Inc.
4055 Hodges Chapel Road
Dunn, NC 28334
910-892-1700

Job Name	: Good Hope remote area 1
Drawing	: Remote area 1 single line
Location	: Erwin, NC
Remote Area	: 1
Contract	: 25G031
Data File	: Good Hope area 1 single line.WXF

Hydraulic Design Information Sheet

Name - Good Hope remote area 1 Date - 9/11/25
Location - Erwin, NC
Building - Remote area 1 single line System No. - 1
Contractor - Carolina Fire Protection, Inc. Contract No. - 25G031
Calculated By - Mark Ford Drawing No. -
Construction: (X) Combustible () Non-Combustible Ceiling Height - 8'-6"
Occupancy - Offices

S (X) NFPA 13 (X) Lt. Haz. Ord.Haz.Gp. () 1 () 2 () 3 () Ex.Haz.
Y () NFPA 231 () NFPA 231C () Figure Curve

S Other

T Specific Ruling

Made By

Date

E

M	Area of Sprinkler Operation	- 330	System Type	Sprinkler/Nozzle
	Density	- .10	(X) Wet	Make Victaulic
D	Area Per Sprinkler	- 225	() Dry	Model Pendent
E	Elevation at Highest Outlet	- 8'-6"	() Deluge	Size 1/2"
S	Hose Allowance - Inside	- n/a	() Preaction	K-Factor 5.6
I	Rack Sprinkler Allowance	- n/a	() Other	Temp.Rat.155
G	Hose Allowance - Outside	- 100		

N

Note

Calculation Flow Required - 179.718 Press Required - 36.152 BASR
Summary C-Factor Used: 120 Overhead 140 Underground

W	Water Flow Test:	Pump Data:	Tank or Reservoir:
A	Date of Test - 9/10/25		Cap. -
T	Time of Test -	Rated Cap.-	Elev.-
E	Static Press - 47	@ Press -	
R	Residual Press - 42	Elev. -	Well
	Flow - 729		Proof Flow
S	Elevation - 0		

U

P Location - Denim Drive

P

L Source of Information - Carolina Fire Protection, Inc.

Y

C	Commodity	Class	Location
O	Storage Ht.	Area	Aisle W.
M	Storage Method:	Solid Piled %	Palletized % Rack
M	() Single Row	() Conven. Pallet	() Auto. Storage () Encap.
S	() Double Row	() Slave Pallet	() Solid Shelf () Non
T	() Mult. Row		() Open Shelf

O

R	K	Flue Spacing	Clearance:Storage to Ceiling
A		Longitudinal	Transverse

G

E Horizontal Barriers Provided:

Water Supply Curve

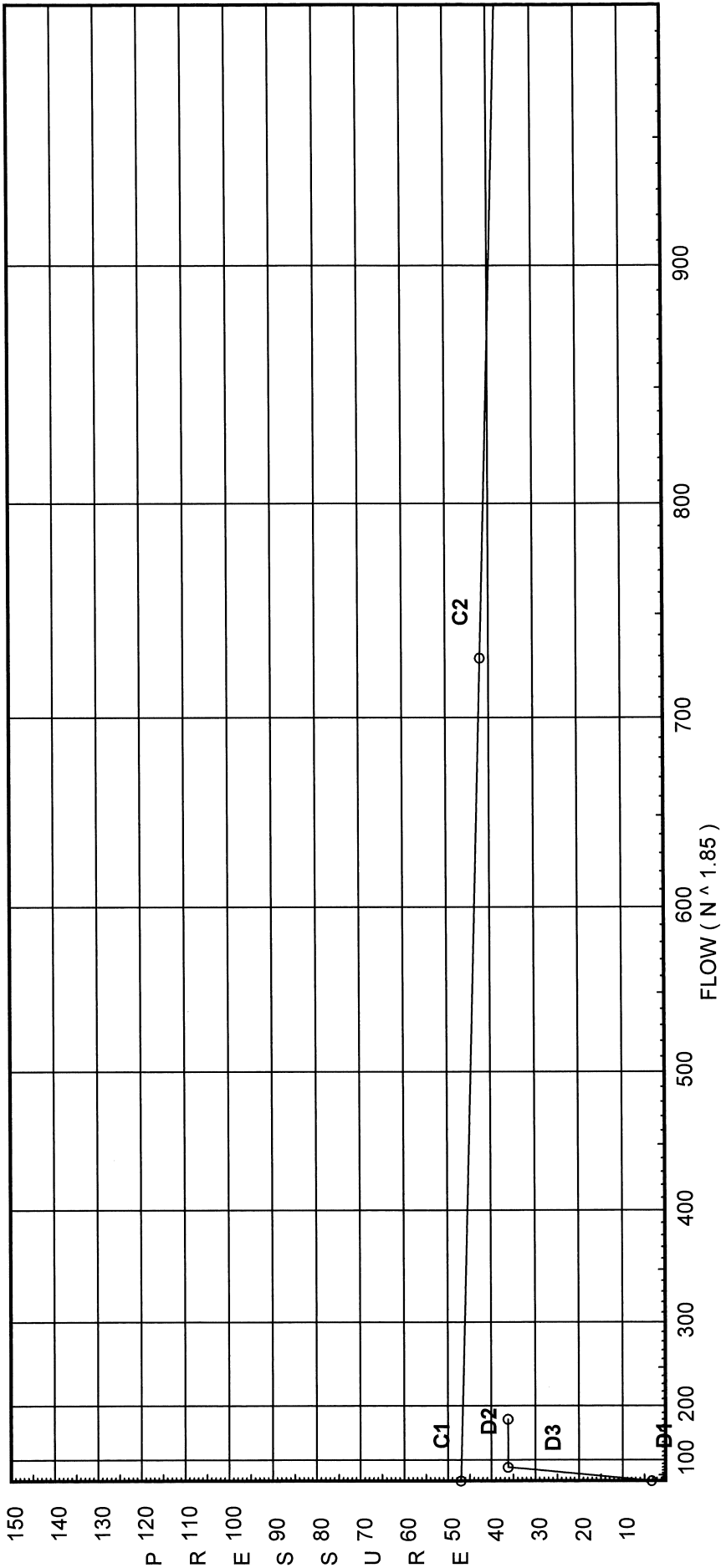
Carolina Fire Protection, Inc.
Good Hope remote area 1

City Water Supply:

C1 - Static Pressure : 47
C2 - Residual Pressure: 42
C2 - Residual Flow : 729

Demand:

D1 - Elevation : 3.248
D2 - System Flow : 79.718
D2 - System Pressure : 36.152
Hose (Demand) : 100
D3 - System Demand : 179.718
Safety Margin : 10.473



Fittings Used Summary

Carolina Fire Protection, Inc.
Good Hope remote area 1

Fitting Legend Abbrev. Name	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
	Fitting generates a Fixed Loss Based on Flow																			
B NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
E NFPA 13 90' Standard Elbow	1	2	2	3	5.5	5	6	5	8	6.8	12	14	18	22	27	35	40	45	50	61
G NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
T NFPA 13 90' Flow thru Tee	3	4	5	6	6.1	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zcj Colt C500 Horiz OSY																				

Units Summary

- Diameter Units Inches
- Length Units Feet
- Flow Units US Gallons per Minute
- Pressure Units Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Flow Summary - NFPA

Carolina Fire Protection, Inc.
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SUPPLY ANALYSIS

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	47.0	42	729.0	46.625	179.72	36.152

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>		<i>Notes</i>
1A	8.5	5.6	12.6	19.88	0.1	144
2A	8.5	5.6	12.61	19.89	0.1	100
3A	8.5	5.6	12.69	19.95	0.1	100
4A	8.5	5.6	12.76	20.0	0.1	200
11A	8.5		21.66			
12A	8.5		21.68			
13A	8.5		21.68			
14A	8.5		21.69			
15A	8.5		21.7			
16A	8.5		21.71			
17A	8.5		21.73			
18A	8.5		21.74			
25A	8.5		21.64			
26A	8.5		21.66			
27A	8.5		21.69			
28A	8.5		21.72			
29A	20.5		16.5			
30A	20.5		16.51			
1	9.667		18.4			
2	9.667		18.42			
3	9.667		18.53			
4	9.667		18.63			
L1	9.667		18.65			
F1	11.5		20.34			
5	15.667		18.57			
6	15.667		18.58			
7	15.667		18.59			
8	15.667		18.6			
9	15.667		18.61			
10	15.667		18.62			
F2	11.5		20.34			
11	11.5		20.36			
12	11.5		20.38			
13	11.5		20.39			
14	11.5		20.39			
15	11.5		20.4			
16	11.5		20.41			
17	11.5		20.43			
18	11.5		20.44			
F3	11.5		20.32			
19	23.167		15.32			
20	23.167		15.33			

Flow Summary - NFPA

Carolina Fire Protection, Inc.
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NODE ANALYSIS (cont.)

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
21	23.167		15.34		
22	23.167		15.35		
23	23.167		15.37		
24	23.167		15.38		
F4	11.5		20.3		
25	23.167		15.28		
26	23.167		15.31		
27	23.167		15.34		
28	23.167		15.36		
F5	11.5		20.31		
29	11.5		20.4		
30	11.5		20.4		
31	11.5		20.41		
F6	11.5		20.31		
L2	11.5		20.28		
N1	11.5		20.57		
N2	11.5		20.57		
N7	11.5		20.58		
N3	11.5		20.57		
N4	11.5		20.57		
N5	11.5		20.56		
N8	9.5		21.56		
TASR	9.5		21.96		
BASR	1.0		35.83	100.0	
TEST	1.0		36.15		

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
1A to 1	8.500 9.667	5.60	19.88 19.88	1 1.049	T EqL 43.0	1.000 48.000 49.000	120 0.1287	12.603 -0.505 6.306		Vel = 7.38	
1			0.0 19.88					18.404		K Factor = 4.63	
2A to 2	8.500 9.667	5.60	19.89 19.89	1 1.049	T EqL 43.0	1.000 48.000 49.000	120 0.1288	12.614 -0.505 6.311		Vel = 7.38	
2			0.0 19.89					18.420		K Factor = 4.63	
3A to 3	8.500 9.667	5.60	19.95 19.95	1 1.049	T EqL 43.0	1.000 48.000 49.000	120 0.1295	12.690 -0.505 6.345		Vel = 7.41	
3			0.0 19.95					18.530		K Factor = 4.63	
4A to 4	8.500 9.667	5.60	20.00 20.0	1 1.049	T EqL 43.0	1.000 48.000 49.000	120 0.1301	12.755 -0.505 6.376		Vel = 7.42	
4			0.0 20.00					18.626		K Factor = 4.63	
11A to 11	8.500 11.500		0.0 0.0	1 1.049	E T EqL 43.0	2.000 50.000 52.000	120 0	21.663 -1.299 -0.001		Vel = 0	
11			0.0 0.0					20.363		K Factor = 0	
12A to 12	8.500 11.500		0.0 0.0	1 1.049	E T EqL 43.0	8.000 50.000 58.000	120 0	21.677 -1.299 0.0		Vel = 0	
12			0.0 0.0					20.378		K Factor = 0	
13A to 13	8.500 11.500		0.0 0.0	1 1.049	E T EqL 43.0	2.000 50.000 52.000	120 0	21.685 -1.299 0.0		Vel = 0	
13			0.0 0.0					20.386		K Factor = 0	
14A to 14	8.500 11.500		0.0 0.0	1 1.049	E T EqL 43.0	2.000 50.000 52.000	120 0	21.692 -1.299 -0.001		Vel = 0	
14			0.0 0.0					20.392		K Factor = 0	
15A to 15	8.500 11.500		0.0 0.0	1 1.049	E T EqL 43.0	2.000 50.000 52.000	120 0	21.696 -1.299 0.0		Vel = 0	
15			0.0 0.0					20.397		K Factor = 0	
16A to 16	8.500 11.500		0.0 0.0	1 1.049	E T EqL 43.0	2.000 50.000 52.000	120 0	21.712 -1.299 0.0		Vel = 0	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 1

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftns Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
16			0.0 0.0						20.413		K Factor = 0	
17A to 17	8.500 11.500		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	8.000 50.000 58.000	120 0	21.732 -1.299 0.0		Vel = 0	
17			0.0 0.0						20.433		K Factor = 0	
18A to 18	8.500 11.500		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	21.736 -1.299 0.0		Vel = 0	
18			0.0 0.0						20.437		K Factor = 0	
25A to 25	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	21.635 -6.352 0.0		Vel = 0	
25			0.0 0.0						15.283		K Factor = 0	
26A to 26	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	21.661 -6.352 0.0		Vel = 0	
26			0.0 0.0						15.309		K Factor = 0	
27A to 27	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	21.691 -6.352 0.0		Vel = 0	
27			0.0 0.0						15.339		K Factor = 0	
28A to 28	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	21.717 -6.352 0.0		Vel = 0	
28			0.0 0.0						15.365		K Factor = 0	
29A to 29	20.500 11.500		0.0 0.0	1 1.049	2E T	4.0 5.0	24.000 9.000 33.000	120 0	16.504 3.898 0.0		Vel = 0	
29			0.0 0.0						20.402		K Factor = 0	
30A to 30	20.500 11.500		0.0 0.0	1 1.049	T	5.0	9.000 5.000 14.000	120 0	16.506 3.898 0.0		Vel = 0	
30			0.0 0.0						20.404		K Factor = 0	
1 to 2	9.667 9.667		19.88 19.88	2 2.157			4.000 4.000	120 0.0040	18.404 0.0 0.016		Vel = 1.75	
2 to 3	9.667 9.667		19.89 39.77	2 2.157			8.000 8.000	120 0.0138	18.420 0.0 0.110		Vel = 3.49	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 1

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
3 to L1	9.667 9.667		19.95 59.72	2 2.157			4.000 4.000	120 0.0295	18.530 0.0 0.118		Vel = 5.24	
L1			0.0 59.72						18.648		K Factor = 13.83	
4 to L1	9.667 9.667		20.00 20.0	2 2.157			5.667 5.667	120 0.0039	18.626 0.0 0.022		Vel = 1.76	
L1 to L2	9.667 11.500		59.72 79.72	2 2.157	2T 2E	24.613 12.307	11.500 36.920 48.420	120 0.0502	18.648 -0.794 2.431		Vel = 7.00	
L2			0.0 79.72						20.285		K Factor = 17.70	
F1 to 5	11.500 15.667		11.37 11.37	2 2.157	E T	6.153 12.307	5.000 18.460 23.460	120 0.0014	20.338 -1.805 0.033		Vel = 1.00	
5 to 6	15.667 15.667		0.0 11.37	2 2.157			7.667 7.667	120 0.0013	18.566 0.0 0.010		Vel = 1.00	
6 to 7	15.667 15.667		0.0 11.37	2 2.157			7.667 7.667	120 0.0014	18.576 0.0 0.011		Vel = 1.00	
7 to 8	15.667 15.667		0.0 11.37	2 2.157			7.667 7.667	120 0.0013	18.587 0.0 0.010		Vel = 1.00	
8 to 9	15.667 15.667		0.0 11.37	2 2.157			7.667 7.667	120 0.0014	18.597 0.0 0.011		Vel = 1.00	
9 to 10	15.667 15.667		0.0 11.37	2 2.157			7.667 7.667	120 0.0013	18.608 0.0 0.010		Vel = 1.00	
10 to N1	15.667 11.500		0.0 11.37	2 2.157	5E T	30.767 12.307	65.833 43.074 108.907	120 0.0014	18.618 1.805 0.149		Vel = 1.00	
N1			0.0 11.37						20.572		K Factor = 2.51	
F2 to 11	11.500 11.500		13.83 13.83	2 2.157	T	12.307	1.917 12.307 14.224	120 0.0020	20.335 0.0 0.028		Vel = 1.21	
11 to 12	11.500 11.500		0.0 13.83	2 2.157			7.250 7.250	120 0.0021	20.363 0.0 0.015		Vel = 1.21	
12 to 13	11.500 11.500		0.0 13.83	2 2.157			4.000 4.000	120 0.0020	20.378 0.0 0.008		Vel = 1.21	
13 to 14	11.500 11.500		0.0 13.83	2 2.157			3.583 3.583	120 0.0017	20.386 0.0 0.006		Vel = 1.21	

Final Calculations : Hazen-Williams

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Good Hope remote area 1

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
14 to 15	11.500 11.500		0.0 13.83	2 2.157			2.333 2.333	120 0.0021	20.392 0.0 0.005		Vel = 1.21	
15 to 16	11.500 11.500		0.0 13.83	2 2.157			8.000 8.000	120 0.0020	20.397 0.0 0.016		Vel = 1.21	
16 to 17	11.500 11.500		0.0 13.83	2 2.157			10.250 10.250	120 0.0020	20.413 0.0 0.020		Vel = 1.21	
17 to 18	11.500 11.500		0.0 13.83	2 2.157			1.917 1.917	120 0.0021	20.433 0.0 0.004		Vel = 1.21	
18 to N2	11.500 11.500		0.0 13.83	2 2.157	T	12.307	57.083 12.307 69.390	120 0.0020	20.437 0.0 0.136		Vel = 1.21	
N2			0.0 13.83						20.573		K Factor = 3.05	
F3 to 19	11.500 23.167		12.48 12.48	2 2.157	E T	6.153 12.307	12.500 18.460 30.960	120 0.0016	20.319 -5.053 0.050		Vel = 1.10	
19 to 20	23.167 23.167		0.0 12.48	2 2.157			7.667 7.667	120 0.0017	15.316 0.0 0.013		Vel = 1.10	
20 to 21	23.167 23.167		0.0 12.48	2 2.157			7.667 7.667	120 0.0016	15.329 0.0 0.012		Vel = 1.10	
21 to 22	23.167 23.167		0.0 12.48	2 2.157			7.667 7.667	120 0.0017	15.341 0.0 0.013		Vel = 1.10	
22 to 23	23.167 23.167		0.0 12.48	2 2.157			7.667 7.667	120 0.0016	15.354 0.0 0.012		Vel = 1.10	
23 to 24	23.167 23.167		0.0 12.48	2 2.157			7.667 7.667	120 0.0017	15.366 0.0 0.013		Vel = 1.10	
24 to N3	23.167 11.500		0.0 12.48	2 2.157	E T	6.153 12.307	68.833 18.460 87.293	120 0.0016	15.379 5.053 0.141		Vel = 1.10	
N3			0.0 12.48						20.573		K Factor = 2.75	
F4 to 25	11.500 23.167		14.54 14.54	2 2.157	T	12.307	2.250 12.307 14.557	120 0.0022	20.304 -5.053 0.032		Vel = 1.28	
25 to 26	23.167 23.167		0.0 14.54	2 2.157			12.000 12.000	120 0.0022	15.283 0.0 0.026		Vel = 1.28	
26 to 27	23.167 23.167		0.0 14.54	2 2.157			14.083 14.083	120 0.0021	15.309 0.0 0.030		Vel = 1.28	

Final Calculations : Hazen-Williams

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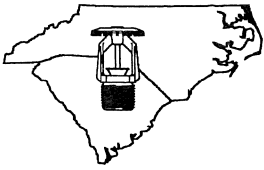
Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
27 to 28	23.167 23.167		0.0 14.54	2 2.157		11.917 11.917	120 0.0022	15.339 0.0 0.026		Vel = 1.28	
28 to N4	23.167 11.500		0.0 14.54	2 2.157	T 12.307	57.000 12.307 69.307	120 0.0021	15.365 5.053 0.149		Vel = 1.28	
N4			0.0 14.54					20.567		K Factor = 3.21	
F5 to 29	11.500 11.500		13.40 13.4	2 2.157	E T 12.307	32.000 18.460 50.460	120 0.0018	20.309 0.0 0.093		Vel = 1.18	
29 to 30	11.500 11.500		0.0 13.4	2 2.157		0.750 0.750	120 0.0027	20.402 0.0 0.002		Vel = 1.18	
30 to 31	11.500 11.500		0.0 13.4	2 2.157		3.000 3.000	120 0.0017	20.404 0.0 0.005		Vel = 1.18	
31 to N5	11.500 11.500		0.0 13.4	2 2.157	E T 12.307	61.000 18.460 79.460	120 0.0018	20.409 0.0 0.147		Vel = 1.18	
N5			0.0 13.40					20.556		K Factor = 2.96	
F6 to N6	11.500 0		14.09 14.09	2 2.157	2T 24.613	96.333 24.613 120.946	120 0.0020	20.310 4.981 0.246		Vel = 1.24	
N6			0.0 14.09					25.537		K Factor = 2.79	
F1 to F2	11.500 11.500		-11.37 -11.37	2.5 2.635		5.750 5.750	120 -0.0005	20.338 0.0 -0.003		Vel = 0.67	
F2 to F3	11.500 11.500		-13.83 -25.2	2.5 2.635		7.333 7.333	120 -0.0022	20.335 0.0 -0.016		Vel = 1.48	
F3 to F4	11.500 11.500		-12.49 -37.69	2.5 2.635		3.083 3.083	120 -0.0049	20.319 0.0 -0.015		Vel = 2.22	
F4 to L2	11.500 11.500		-14.54 -52.23	2.5 2.635		2.250 2.250	120 -0.0084	20.304 0.0 -0.019		Vel = 3.07	
L2 to F5	11.500 11.500		79.72 27.49	2.5 2.635		9.083 9.083	120 0.0026	20.285 0.0 0.024		Vel = 1.62	
F5 to F6	11.500 11.500		-13.40 14.09	2.5 2.635		1.500 1.500	120 0.0007	20.309 0.0 0.001		Vel = 0.83	
F6			0.0 14.09					20.310		K Factor = 3.13	

Final Calculations : Hazen-Williams

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
N1 to N2	11.500 11.500		11.37 11.37	3 3.26			5.750 5.750	120 0.0002	20.572 0.0 0.001		Vel = 0.44	
N2 to N7	11.500 11.500		13.83 25.2	3 3.26			6.000 6.000	120 0.0008	20.573 0.0 0.005		Vel = 0.97	
N7 to N3	11.500 11.500		-79.71 -54.51	3 3.26			1.333 1.333	120 -0.0038	20.578 0.0 -0.005		Vel = 2.10	
N3 to N4	11.500 11.500		12.48 -42.03	3 3.26			3.083 3.083	120 -0.0019	20.573 0.0 -0.006		Vel = 1.62	
N4 to N5	11.500 11.500		14.54 -27.49	3 3.26			11.333 11.333	120 -0.0010	20.567 0.0 -0.011		Vel = 1.06	
N5 to N6	11.500 0		13.40 -14.09	3 3.26			1.500 1.500	120 0	20.556 4.981 0.0		Vel = 0.54	
N6			0.0 -14.09						25.537		K Factor = -2.79	
N7 to N8	11.500 9.500		79.72 79.72	4 4.26	2E T	17.907 26.334	21.750 44.241 65.991	120 0.0018	20.578 0.866 0.120		Vel = 1.79	
N8 to TASR	9.500 9.500		0.0 79.72	4 4.26	5E	44.768	171.000 44.768 215.768	120 0.0018	21.564 0.0 0.394		Vel = 1.79	
TASR to BASR	9.500 1		0.0 79.72	4 4.26	B 2E Zcj	15.8 17.907 0.0	15.000 33.707 48.707	120 0.0018	21.958 13.786 0.089		* * Fixed Loss = 10.104 Vel = 1.79	
BASR to TEST	1 1	H100	100.00 179.72	6 6.16	3E T 2G	60.252 43.037 8.607	200.000 111.896 311.896	140 0.0010	35.833 0.0 0.319		Vel = 1.93	
TEST			0.0 179.72						36.152		K Factor = 29.89	



Carolina Fire Protection, Inc.

P.O. Box 250
Dunn, NC 28335

Phone: (910) 892-1700
Fax: (910) 892-7322

Hydrant Flow Test

SERVICE LOCATION:

Address: _____ 410 Denim Drive Erwin, NC 28339 _____

Proposed Tap Location: _____ N/A _____

Requested Flow Location: _____ See marked-up Map _____

TESTING AGENT:

Firm Name: _____ Carolina Fire Protection, Inc. _____

Address: _____ 4055 Hodges Chapel Rd Dunn, NC _____

Phone: _____ (910) 892-1700 _____ Fax: _____ (910) 892-7322 _____

RESULTS:

Static Pressure: _____ 47 _____ psi Flowing Pressure: _____ 19 _____ psi

Residual Pressure: _____ 42 _____ psi Volume: _____ 729 _____ gpm

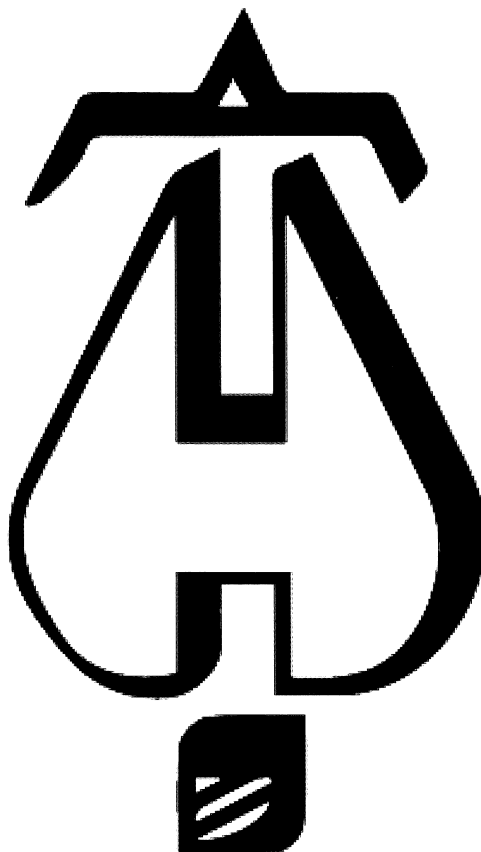
Comments: _____

Completed By: _____ Andrew Dorman _____ Date: _____ 9/09/2025 _____

Signature: _____ Time of Test: _____ 10:30am _____

FIRE FLOW LOCATION SKETCH: (See Map on Page 2)





Hydraulic Calculations by HydraCALC

Carolina Fire Protection, Inc.
4055 Hodges Chapel Road
Dunn, NC 28334
910-892-1700

Job Name : Good Hope remote area 2
Drawing : Remote area 2 offices
Location : Erwin, NC
Remote Area : 1
Contract : 25G031
Data File : Good Hope area 2 pendent.WXF

Hydraulic Design Information Sheet

Name - Good Hope remote area 3 Date - 9/11/25
Location - Erwin, NC
Building - Remote area 2 offices System No. - 1
Contractor - Carolina Fire Protection, Inc. Contract No. - 25G031
Calculated By - Mark Ford Drawing No. -
Construction: (X) Combustible () Non-Combustible Ceiling Height - 8'-6"
Occupancy - Offices

S (X) NFPA 13 (X) Lt. Haz. Ord.Haz.Gp. () 1 () 2 () 3 () Ex.Haz.
Y () NFPA 231 () NFPA 231C () Figure Curve

S Other

T Specific Ruling Made By Date

E

M	Area of Sprinkler Operation	- 1043	System Type	Sprinkler/Nozzle
	Density	- .10	(X) Wet	Make Victaulic
D	Area Per Sprinkler	- 225	() Dry	Model Pendent
E	Elevation at Highest Outlet	- 8'-6"	() Deluge	Size 1/2"
S	Hose Allowance - Inside	- n/a	() Preaction	K-Factor 5.6
I	Rack Sprinkler Allowance	- n/a	() Other	Temp.Rat.155
G	Hose Allowance - Outside	- 100		

N

Note

Calculation Flow Required - 311.14 Press Required - 30.73 BASR
Summary C-Factor Used: 120 Overhead 140 Underground

W	Water Flow Test:	Pump Data:	Tank or Reservoir:
A	Date of Test - 9/10/25		Cap. -
T	Time of Test -	Rated Cap.-	Elev.-
E	Static Press - 47	@ Press -	
R	Residual Press - 42	Elev. -	Well
	Flow - 729		Proof Flow
S	Elevation - 0		

U

P Location - Denim Drive

P

L Source of Information - Carolina Fire Protection, Inc.

Y

C	Commodity	Class	Location
O	Storage Ht.	Area	Aisle W.
M	Storage Method:	Solid Piled %	Palletized % Rack
M	() Single Row	() Conven. Pallet	() Auto. Storage () Encap.
S	() Double Row	() Slave Pallet	() Solid Shelf () Non
T	() Mult. Row		() Open Shelf

O

R	K	Flue Spacing	Clearance:Storage to Ceiling
A		Longitudinal	Transverse

G

E Horizontal Barriers Provided:

Water Supply Curve

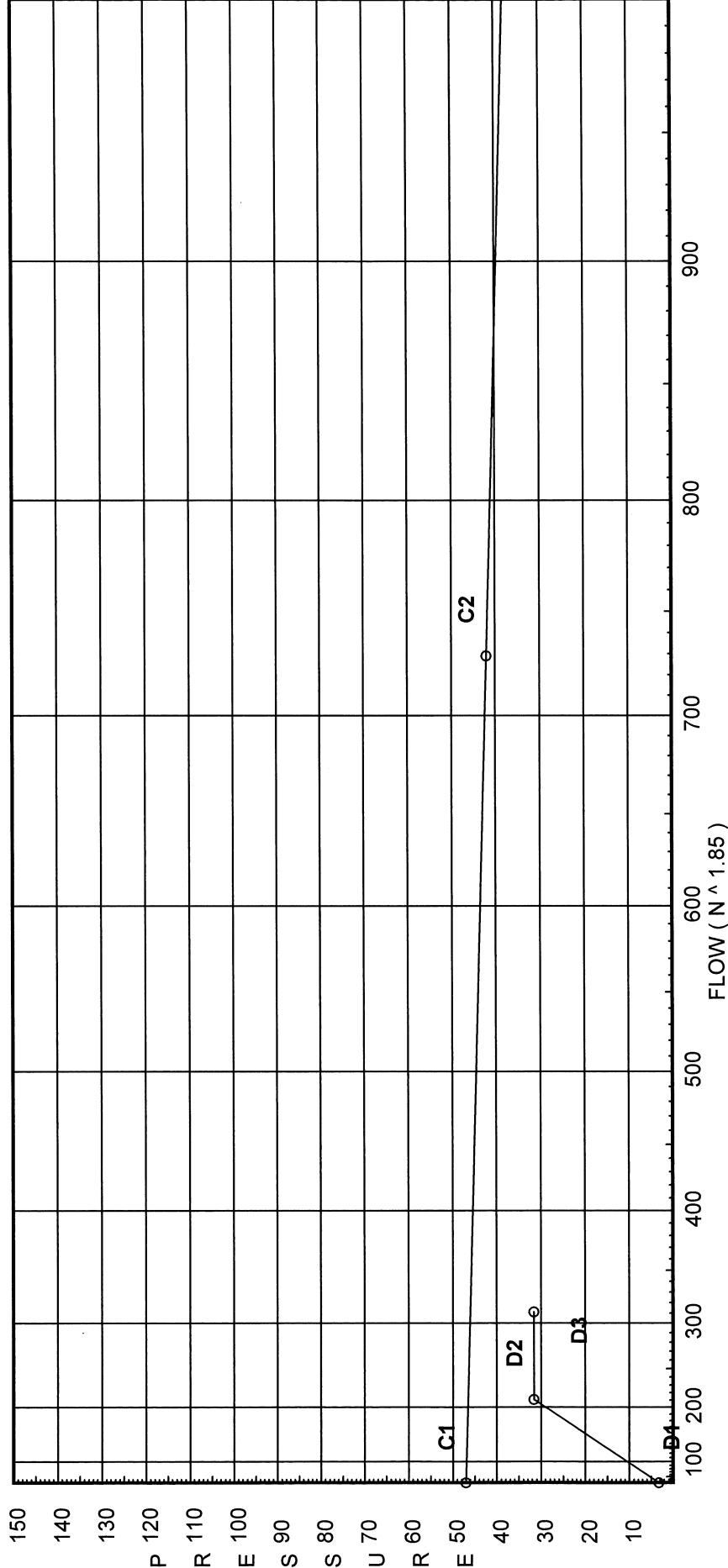
Carolina Fire Protection, Inc.
Good Hope remote area 2

City Water Supply:

C1 - Static Pressure : 47
C2 - Residual Pressure: 42
C2 - Residual Flow : 729

Demand:

D1 - Elevation : 3.248
D2 - System Flow : 211.144
D2 - System Pressure : 31.614
Hose (Demand) : 100
D3 - System Demand : 311.144
Safety Margin : 14.351



Fittings Used Summary

Carolina Fire Protection, Inc.
Good Hope remote area 2

Fitting Legend Abbrev.	Name	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
E	NFPA 13 90° Standard Elbow	1	2	2	3	5.5	5	6	5	8	6.8	12	14	18	22	27	35	40	45	50	61
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
T	NFPA 13 90° Flow thru Tee	3	4	5	6	6.1	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zcj	Coit C500 Horz OSY	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

- Diameter Units Inches
- Length Units Feet
- Flow Units US Gallons per Minute
- Pressure Units Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Flow Summary - NFPA

Carolina Fire Protection, Inc.
Good Hope remote area 2

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SUPPLY ANALYSIS

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	47.0	42	729.0	45.965	311.14	31.614

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>	
1A	8.5		16.05			
2A	8.5		16.05			
3A	8.5		16.05			
4A	8.5		16.05			
11A	8.5	5.6	9.9	17.62	0.1	140
12A	8.5	5.6	9.36	17.13	0.1	130
13A	8.5	5.6	9.7	17.44	0.1	130
14A	8.5	5.6	9.69	17.43	0.1	60
15A	8.5	5.6	9.69	17.43	0.1	115
16A	8.5	5.6	9.69	17.43	0.1	140
17A	8.5	5.6	9.34	17.11	0.1	100
18A	8.5	5.6	9.75	17.49	0.1	150
25A	8.5	5.6	10.34	18.01	0.1	150
26A	8.5	5.6	10.33	18.0	0.1	180
27A	8.5	5.6	10.34	18.0	0.1	125
28A	8.5	5.6	10.38	18.04	0.1	100
29A	20.5		11.28			
30A	20.5		11.29			
1	9.667		15.55			
2	9.667		15.55			
3	9.667		15.55			
4	9.667		15.55			
L1	9.667		15.55			
F1	11.5		14.67			
5	15.667		13.02			
6	15.667		13.07			
7	15.667		13.12			
8	15.667		13.17			
9	15.667		13.22			
10	15.667		13.27			
F2	11.5		14.66			
11	11.5		13.95			
12	11.5		13.73			
13	11.5		13.66			
14	11.5		13.63			
15	11.5		13.63			
16	11.5		13.64			
17	11.5		13.7			
18	11.5		13.73			
F3	11.5		14.72			
19	23.167		9.89			
20	23.167		9.94			

Flow Summary - NFPA

Carolina Fire Protection, Inc.
Good Hope remote area 2

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NODE ANALYSIS (cont.)

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>
21	23.167		9.99		
22	23.167		10.04		
23	23.167		10.1		
24	23.167		10.15		
F4	11.5		14.73		
25	23.167		9.56		
26	23.167		9.55		
27	23.167		9.55		
28	23.167		9.62		
F5	11.5		14.84		
29	11.5		15.18		
30	11.5		15.18		
31	11.5		15.2		
F6	11.5		14.84		
L2	11.5		14.75		
N1	11.5		15.77		
N2	11.5		15.78		
N7	11.5		15.82		
N3	11.5		15.8		
N4	11.5		15.77		
N5	11.5		15.74		
N8	9.5		17.42		
TASR	9.5		19.81		
BASR	1.0		30.73	100.0	
TEST	1.0		31.61		

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 2

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
1A to 1	8.500 9.667		0.0 0.0	1 1.049	T Eql	5.0 43.0	1.000 48.000 49.000	120 0	16.053 -0.505 -0.001		Vel = 0	
1			0.0 0.0						15.547		K Factor = 0	
2A to 2	8.500 9.667		0.0 0.0	1 1.049	T Eql	5.0 43.0	1.000 48.000 49.000	120 0	16.053 -0.505 -0.001		Vel = 0	
2			0.0 0.0						15.547		K Factor = 0	
3A to 3	8.500 9.667		0.0 0.0	1 1.049	T Eql	5.0 43.0	1.000 48.000 49.000	120 0	16.053 -0.505 -0.001		Vel = 0	
3			0.0 0.0						15.547		K Factor = 0	
4A to 4	8.500 9.667		0.0 0.0	1 1.049	T Eql	5.0 43.0	1.000 48.000 49.000	120 0	16.053 -0.505 -0.001		Vel = 0	
4			0.0 0.0						15.547		K Factor = 0	
11A to 11	8.500 11.500	5.60	17.62 17.62	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1029	9.900 -1.299 5.352		Vel = 6.54	
11			0.0 17.62						13.953		K Factor = 4.72	
12A to 12	8.500 11.500	5.60	17.13 17.13	1 1.049	E T Eql	2.0 5.0 43.0	8.000 50.000 58.000	120 0.0977	9.359 -1.299 5.667		Vel = 6.36	
12			0.0 17.13						13.727		K Factor = 4.62	
13A to 13	8.500 11.500	5.60	17.44 17.44	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1010	9.704 -1.299 5.254		Vel = 6.47	
13			0.0 17.44						13.659		K Factor = 4.72	
14A to 14	8.500 11.500	5.60	17.43 17.43	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1009	9.687 -1.299 5.247		Vel = 6.47	
14			0.0 17.43						13.635		K Factor = 4.72	
15A to 15	8.500 11.500	5.60	17.43 17.43	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1009	9.686 -1.299 5.245		Vel = 6.47	
15			0.0 17.43						13.632		K Factor = 4.72	
16A to 16	8.500 11.500	5.60	17.43 17.43	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1009	9.690 -1.299 5.247		Vel = 6.47	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 2

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
16			0.0 17.43						13.638		K Factor = 4.72	
17A to 17	8.500 11.500	5.60	17.11 17.11	1 1.049	E T Eql	2.0 5.0 43.0	8.000 50.000 58.000	120 0.0975	9.341 -1.299 5.657		Vel = 6.35	
17			0.0 17.11						13.699		K Factor = 4.62	
18A to 18	8.500 11.500	5.60	17.49 17.49	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1015	9.750 -1.299 5.278		Vel = 6.49	
18			0.0 17.49						13.729		K Factor = 4.72	
25A to 25	8.500 23.167	5.60	18.01 18.01	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1072	10.342 -6.352 5.574		Vel = 6.69	
25			0.0 18.01						9.564		K Factor = 5.82	
26A to 26	8.500 23.167	5.60	18.00 18.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1071	10.332 -6.352 5.568		Vel = 6.68	
26			0.0 18.00						9.548		K Factor = 5.83	
27A to 27	8.500 23.167	5.60	18.00 18.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1071	10.336 -6.352 5.571		Vel = 6.68	
27			0.0 18.00						9.555		K Factor = 5.82	
28A to 28	8.500 23.167	5.60	18.04 18.04	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0.1076	10.382 -6.352 5.593		Vel = 6.70	
28			0.0 18.04						9.623		K Factor = 5.82	
29A to 29	20.500 11.500		0.0 0.0	1 1.049	2E T	4.0 5.0	24.000 9.000 33.000	120 0	11.280 3.898 0.0		Vel = 0	
29			0.0 0.0						15.178		K Factor = 0	
30A to 30	20.500 11.500		0.0 0.0	1 1.049	T	5.0	9.000 5.000 14.000	120 0	11.285 3.898 0.0		Vel = 0	
30			0.0 0.0						15.183		K Factor = 0	
1 to 2	9.667 9.667		0.0 0.0	2 2.157			4.000 4.000	120 0	15.547 0.0 0.0		Vel = 0	
2 to 3	9.667 9.667		0.0 0.0	2 2.157			8.000 8.000	120 0	15.547 0.0 0.0		Vel = 0	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 2

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
3 to L1	9.667 9.667		0.0 0.0	2 2.157			4.000 4.000	120 0	15.547 0.0 0.0			
L1			0.0 0.0						15.547		K Factor = 0	
4 to L1	9.667 9.667		0.0 0.0	2 2.157			5.667 5.667	120 0	15.547 0.0 0.0			
L1 to L2	9.667 11.500		0.0 0.0	2 2.157	2T 2E	24.613 12.307	11.500 36.920 48.420	120 0	15.547 -0.794 0.001			
L2			0.0 0.0						14.754		K Factor = 0	
F1 to 5	11.500 15.667		26.27 26.27	2 2.157	E T	6.153 12.307	5.000 18.460 23.460	120 0.0064	14.674 -1.805 0.151			
5 to 6	15.667 15.667		0.0 26.27	2 2.157			7.667 7.667	120 0.0064	13.020 0.0 0.049			
6 to 7	15.667 15.667		0.0 26.27	2 2.157			7.667 7.667	120 0.0065	13.069 0.0 0.050			
7 to 8	15.667 15.667		0.0 26.27	2 2.157			7.667 7.667	120 0.0064	13.119 0.0 0.049			
8 to 9	15.667 15.667		0.0 26.27	2 2.157			7.667 7.667	120 0.0065	13.168 0.0 0.050			
9 to 10	15.667 15.667		0.0 26.27	2 2.157			7.667 7.667	120 0.0064	13.218 0.0 0.049			
10 to N1	15.667 11.500		0.0 26.27	2 2.157	5E T	30.767 12.307	65.833 43.074 108.907	120 0.0064	13.267 1.805 0.701			
N1			0.0 26.27						15.773		K Factor = 6.61	
F2 to 11	11.500 11.500		-79.25 -79.25	2 2.157	T	12.307	1.917 12.307 14.224	120 -0.0497	14.660 0.0 -0.707			
11 to 12	11.500 11.500		17.62 -61.63	2 2.157			7.250 7.250	120 -0.0312	13.953 0.0 -0.226			
12 to 13	11.500 11.500		17.13 -44.5	2 2.157			4.000 4.000	120 -0.0170	13.727 0.0 -0.068			
13 to 14	11.500 11.500		17.45 -27.05	2 2.157			3.583 3.583	120 -0.0067	13.659 0.0 -0.024			

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 2

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Date 9-11-25

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
14 to 15	11.500 11.500		17.43 -9.62	2 2.157			2.333 2.333	120 -0.0013	13.635 0.0 -0.003		Vel = 0.84	
15 to 16	11.500 11.500		17.43 7.81	2 2.157			8.000 8.000	120 0.0008	13.632 0.0 0.006		Vel = 0.69	
16 to 17	11.500 11.500		17.43 25.24	2 2.157			10.250 10.250	120 0.0060	13.638 0.0 0.061		Vel = 2.22	
17 to 18	11.500 11.500		17.11 42.35	2 2.157			1.917 1.917	120 0.0156	13.699 0.0 0.030		Vel = 3.72	
18 to N2	11.500 11.500		17.49 59.84	2 2.157	T	12.307	57.083 12.307 69.390	120 0.0295	13.729 0.0 2.049		Vel = 5.25	
N2			0.0 59.84						15.778		K Factor = 15.06	
F3 to 19	11.500 23.167		27.25 27.25	2 2.157	E T	6.153 12.307	12.500 18.460 30.960	120 0.0069	14.725 -5.053 0.213		Vel = 2.39	
19 to 20	23.167 23.167		0.0 27.25	2 2.157			7.667 7.667	120 0.0069	9.885 0.0 0.053		Vel = 2.39	
20 to 21	23.167 23.167		0.0 27.25	2 2.157			7.667 7.667	120 0.0069	9.938 0.0 0.053		Vel = 2.39	
21 to 22	23.167 23.167		0.0 27.25	2 2.157			7.667 7.667	120 0.0069	9.991 0.0 0.053		Vel = 2.39	
22 to 23	23.167 23.167		0.0 27.25	2 2.157			7.667 7.667	120 0.0068	10.044 0.0 0.052		Vel = 2.39	
23 to 24	23.167 23.167		0.0 27.25	2 2.157			7.667 7.667	120 0.0069	10.096 0.0 0.053		Vel = 2.39	
24 to N3	23.167 11.500		0.0 27.25	2 2.157	E T	6.153 12.307	68.833 18.460 87.293	120 0.0069	10.149 5.053 0.602		Vel = 2.39	
N3			0.0 27.25						15.804		K Factor = 6.85	
F4 to 25	11.500 23.167		-29.33 -29.33	2 2.157	T	12.307	2.250 12.307 14.557	120 -0.0079	14.732 -5.053 -0.115		Vel = 2.58	
25 to 26	23.167 23.167		18.01 -11.32	2 2.157			12.000 12.000	120 -0.0013	9.564 0.0 -0.016		Vel = 0.99	
26 to 27	23.167 23.167		18.00 6.68	2 2.157			14.083 14.083	120 0.0005	9.548 0.0 0.007		Vel = 0.59	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 2

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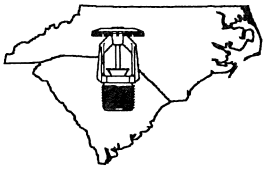
Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
27 to 28	23.167 23.167		18.00 24.68	2 2.157			11.917 11.917	120 0.0057	9.555 0.0 0.068		Vel = 2.17	
28 to N4	23.167 11.500		18.04 42.72	2 2.157	T	12.307	57.000 12.307 69.307	120 0.0158	9.623 5.053 1.098		Vel = 3.75	
N4			0.0 42.72						15.774		K Factor = 10.76	
F5 to 29	11.500 11.500		26.83 26.83	2 2.157	E T	6.153 12.307	32.000 18.460 50.460	120 0.0067	14.840 0.0 0.338		Vel = 2.36	
29 to 30	11.500 11.500		0.0 26.83	2 2.157			0.750 0.750	120 0.0067	15.178 0.0 0.005		Vel = 2.36	
30 to 31	11.500 11.500		0.0 26.83	2 2.157			3.000 3.000	120 0.0067	15.183 0.0 0.020		Vel = 2.36	
31 to N5	11.500 11.500		0.0 26.83	2 2.157	E T	6.153 12.307	61.000 18.460 79.460	120 0.0067	15.203 0.0 0.532		Vel = 2.36	
N5			0.0 26.83						15.735		K Factor = 6.76	
F6 to N6	11.500 0		28.23 28.23	2 2.157	2T	24.613	96.333 24.613 120.946	120 0.0074	14.844 4.981 0.889		Vel = 2.48	
N6			0.0 28.23						20.714		K Factor = 6.20	
F1 to F2	11.500 11.500		-26.27 -26.27	2.5 2.635			5.750 5.750	120 -0.0024	14.674 0.0 -0.014		Vel = 1.55	
F2 to F3	11.500 11.500		79.24 52.97	2.5 2.635			7.333 7.333	120 0.0089	14.660 0.0 0.065		Vel = 3.12	
F3 to F4	11.500 11.500		-27.25 25.72	2.5 2.635			3.083 3.083	120 0.0023	14.725 0.0 0.007		Vel = 1.51	
F4 to L2	11.500 11.500		29.34 55.06	2.5 2.635			2.250 2.250	120 0.0098	14.732 0.0 0.022		Vel = 3.24	
L2 to F5	11.500 11.500		0.0 55.06	2.5 2.635			9.083 9.083	120 0.0095	14.754 0.0 0.086		Vel = 3.24	
F5 to F6	11.500 11.500		-26.83 28.23	2.5 2.635			1.500 1.500	120 0.0027	14.840 0.0 0.004		Vel = 1.66	
F6			0.0 28.23						14.844		K Factor = 7.33	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 2

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
N1 to N2	11.500 11.500		26.27	3			5.750	120	15.773 0.0			
N2 to N7	11.500 11.500		26.27	3.26			5.750	0.0009	0.005	Vel =	1.01	
N2 to N7	11.500 11.500		59.84	3			6.000	120	15.778 0.0			
N7 to N3	11.500 11.500		86.11	3.26			6.000	0.0077	0.046	Vel =	3.31	
N7 to N3	11.500 11.500		-211.14	3			1.333	120	15.824 0.0			
N3 to N4	11.500 11.500		-125.03	3.26			1.333	-0.0150	-0.020	Vel =	4.81	
N3 to N4	11.500 11.500		27.25	3			3.083	120	15.804 0.0			
N4 to N5	11.500 11.500		-97.78	3.26			3.083	-0.0097	-0.030	Vel =	3.76	
N4 to N5	11.500 11.500		42.72	3			11.333	120	15.774 0.0			
N5 to N6	11.500 0		-55.06	3.26			11.333	-0.0034	-0.039	Vel =	2.12	
N5 to N6	11.500 0		26.83	3			1.500	120	15.735 4.981			
N6			-28.23	3.26			1.500	-0.0013	-0.002	Vel =	1.09	
N6			0.0 -28.23						20.714	K Factor =	-6.20	
N7 to N8	11.500 9.500		211.14	4	2E T	17.907 26.334	21.750 44.241	120	15.824 0.866			
N8 to TASR	9.500 9.500		211.14	4.26			65.991	0.0111	0.731	Vel =	4.75	
N8 to TASR	9.500 9.500		0.0	4	5E	44.768	171.000 44.768	120	17.421 0.0			
TASR to BASR	9.500 1		211.14	4.26			215.768	0.0111	2.387	Vel =	4.75	
TASR to BASR	9.500 1		0.0	4	B 2E	15.8 17.907	15.000 33.707	120	19.808 10.385	* * Fixed Loss = 6.704		
BASR to TEST	1 1	H100	211.14	4.26	Zcj	0.0	48.707	0.0111	0.539	Vel =	4.75	
BASR to TEST	1 1	H100	100.00	6	3E T	60.252 43.037	200.000 111.896	140	30.732 0.0			
TEST			311.14	6.16	2G	8.607	311.896	0.0028	0.882	Vel =	3.35	
TEST			0.0 311.14						31.614	K Factor =	55.34	



Carolina Fire Protection, Inc.

P.O. Box 250
Dunn, NC 28335

Phone: (910) 892-1700
Fax: (910) 892-7322

Hydrant Flow Test

SERVICE LOCATION:

Address: 410 Denim Drive Erwin, NC 28339

Proposed Tap Location: N/A

Requested Flow Location: See marked-up Map

TESTING AGENT:

Firm Name: Carolina Fire Protection, Inc.

Address: 4055 Hodges Chapel Rd Dunn, NC

Phone: (910) 892-1700 Fax: (910) 892-7322

RESULTS:

Static Pressure: 47 psi Flowing Pressure: 19 psi

Residual Pressure: 42 psi Volume: 729 gpm

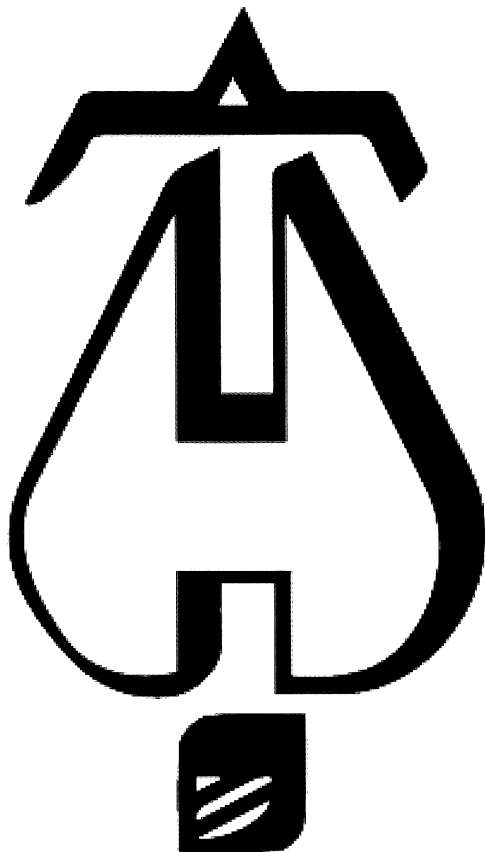
Comments:

Completed By: Andrew Dorman Date: 9/09/2025

Signature: Time of Test: 10:30am

FIRE FLOW LOCATION SKETCH: (See Map on Page 2)





Hydraulic Calculations by HydraCALC

Carolina Fire Protection, Inc.
4055 Hodges Chapel Road
Dunn, NC 28334
910-892-1700

Job Name : Good Hope remote area 3
Drawing : Remote area 3 attic
Location : Erwin, NC
Remote Area : 1
Contract : 25G031
Data File : Good Hope upright area 3.WXF

Hydraulic Design Information Sheet

Name - Good Hope remote area 3 Date - 9/11/25
Location - Erwin, NC
Building - Remote area 3 attic System No. - 1
Contractor - Carolina Fire Protection, Inc. Contract No. - 25G031
Calculated By - Mark Ford Drawing No. -
Construction: (X) Combustible () Non-Combustible Ceiling Height - Varies
Occupancy - Attic

S (X) NFPA 13 (X) Lt. Haz. Ord.Haz.Gp. () 1 () 2 () 3 () Ex.Haz.
Y () NFPA 231 () NFPA 231C () Figure Curve
S Other

T Specific Ruling Made By Date

E
M Area of Sprinkler Operation - 1340 System Type Sprinkler/Nozzle
Density - .15 (X) Wet Make Victaulic
D Area Per Sprinkler - 130 () Dry Model Upright
E Elevation at Highest Outlet - 20.500 () Deluge Size 1/2"
S Hose Allowance - Inside - n/a () Preaction K-Factor 5.6
I Rack Sprinkler Allowance - n/a () Other Temp.Rat.200
G Hose Allowance - Outside - 250
N

Note

Calculation Flow Required - 298.99 Press Required - 35.75 BASR
Summary C-Factor Used: 120 Overhead 140 Underground

W Water Flow Test: Pump Data: Tank or Reservoir:
A Date of Test - 9/10/25 Cap. -
T Time of Test - Rated Cap.-
E Static Press - 47 @ Press - Elev.-
R Residual Press - 42 Elev. - Well
Flow - 729 Proof Flow
S Elevation - 0

U
P Location - Denim Drive

P
L Source of Information - Carolina Fire Protection, Inc.
Y

C Commodity Class Location
O Storage Ht. Area Aisle W.
M Storage Method: Solid Piled % Palletized % Rack
M
() Single Row () Conven. Pallet () Auto. Storage () Encap.
S R () Double Row () Slave Pallet () Solid Shelf () Non
T A () Mult. Row () Open Shelf

O C
R K Flue Spacing Clearance:Storage to Ceiling
A Longitudinal Transverse

G
E Horizontal Barriers Provided:

Water Supply Curve

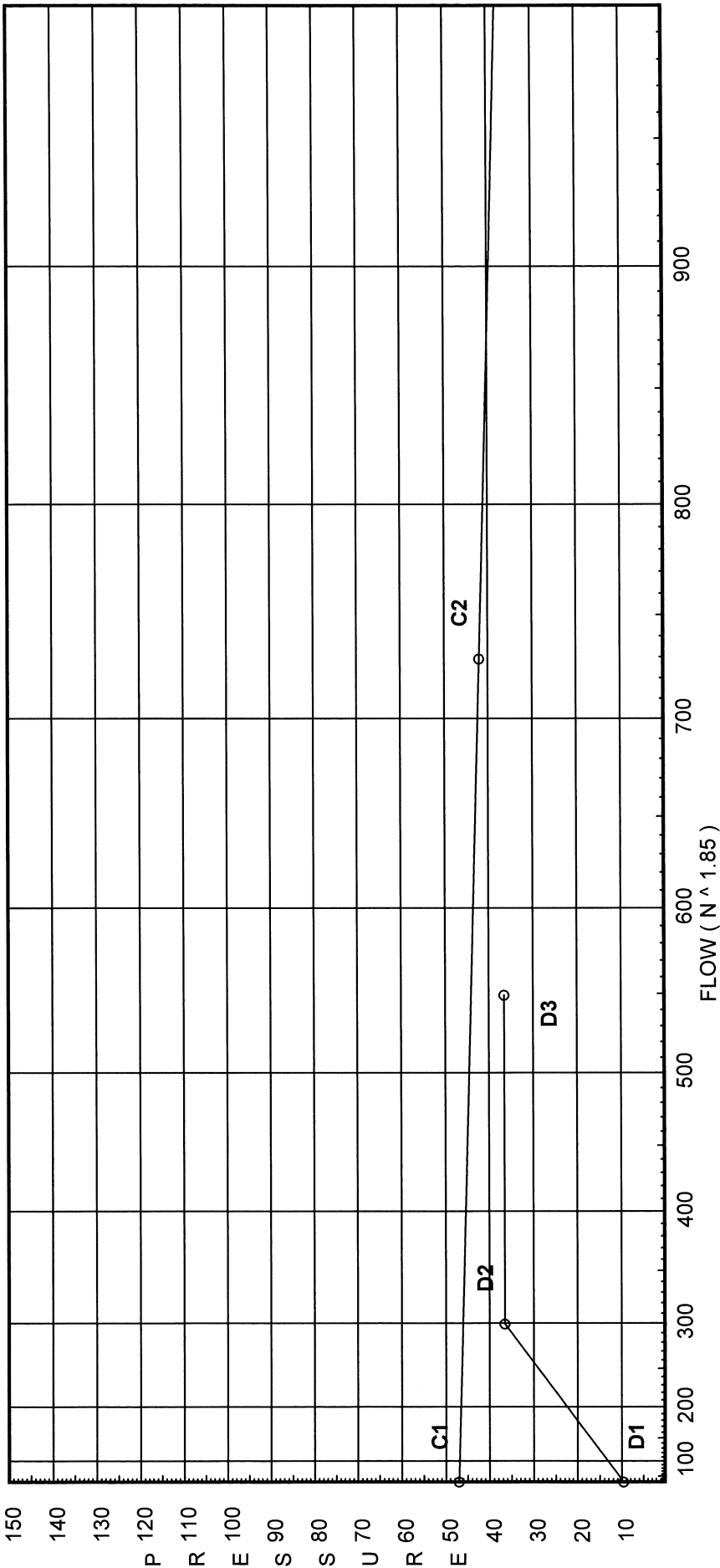
Carolina Fire Protection, Inc.
Good Hope remote area 3

City Water Supply:

C1 - Static Pressure : 47
C2 - Residual Pressure: 42
C2 - Residual Flow : 729

Demand:

D1 - Elevation : 9.601
D2 - System Flow : 298.994
D2 - System Pressure : 36.570
Hose (Demand) : 250
D3 - System Demand : 548.994
Safety Margin : 7.472



Fittings Used Summary

Carolina Fire Protection, Inc.
Good Hope remote area 3

Fitting Legend		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14	16	18	20	24
Abbrev.	Name																				
B	NFPA 13 Butterfly Valve	0	0	0	0	0	6	7	10	0	12	9	10	12	19	21	0	0	0	0	0
E	NFPA 13 90° Standard Elbow	1	2	2	3	5.5	5	6	5	8	6.8	12	14	18	22	27	35	40	45	50	61
G	NFPA 13 Gate Valve	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	7	8	10	11	13
T	NFPA 13 90° Flow thru Tee	3	4	5	6	6.1	10	12	15	17	20	25	30	35	50	60	71	81	91	101	121
Zcj	Colt C500 Horz OSY	Fitting generates a Fixed Loss Based on Flow																			

Units Summary

- Diameter Units Inches
- Length Units Feet
- Flow Units US Gallons per Minute
- Pressure Units Pounds per Square Inch

Note: Fitting Legend provides equivalent pipe lengths for fittings types of various diameters. Equivalent lengths shown are standard for actual diameters of Sched 40 pipe and CFactors of 120 except as noted with *. The fittings marked with a * show equivalent lengths values supplied by manufacturers based on specific pipe diameters and CFactors and they require no adjustment. All values for fittings not marked with a * will be adjusted in the calculation for CFactors of other than 120 and diameters other than Sched 40 per NFPA.

Flow Summary - NFPA

Carolina Fire Protection, Inc.
Good Hope remote area 3

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Date 9/11/25

SUPPLY ANALYSIS

<i>Node at Source</i>	<i>Static Pressure</i>	<i>Residual Pressure</i>	<i>Flow</i>	<i>Available Pressure</i>	<i>Total Demand</i>	<i>Required Pressure</i>
TEST	47.0	42	729.0	44.041	548.99	36.57

NODE ANALYSIS

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>	
1A	8.5		16.48			
2A	8.5		16.48			
3A	8.5		16.48			
4A	8.5		16.48			
11A	8.5		16.67			
12A	8.5		16.8			
13A	8.5		16.87			
14A	8.5		16.93			
15A	8.5		16.97			
16A	8.5		17.1			
17A	8.5		17.28			
18A	8.5		17.31			
25A	8.5		16.71			
26A	8.5		16.91			
27A	8.5		17.13			
28A	8.5		17.32			
29A	20.5	5.6	8.21	16.04	0.15	60
30A	20.5	5.6	9.65	17.4	0.15	60
1	9.667		15.98			
2	9.667		15.98			
3	9.667		15.98			
4	9.667		15.98			
L1	9.667		15.98			
F1	11.5		15.07			
5	15.667	5.6	12.52	19.82	0.15	115
6	15.667	5.6	12.4	19.72	0.15	115
7	15.667	5.6	12.37	19.69	0.15	115
8	15.667	5.6	12.36	19.69	0.15	115
9	15.667	5.6	12.39	19.71	0.15	115
10	15.667	5.6	12.48	19.78	0.15	115
F2	11.5		15.13			
11	11.5		15.38			
12	11.5		15.5			
13	11.5		15.57			
14	11.5		15.63			
15	11.5		15.67			
16	11.5		15.8			
17	11.5		15.98			
18	11.5		16.01			
F3	11.5		15.14			
19	23.167	5.6	9.55	17.31	0.15	115
20	23.167	5.6	9.5	17.26	0.15	115

Flow Summary - NFPA

Carolina Fire Protection, Inc.
Good Hope remote area 3

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NODE ANALYSIS (cont.)

<i>Node Tag</i>	<i>Elevation</i>	<i>Node Type</i>	<i>Pressure at Node</i>	<i>Discharge at Node</i>	<i>Notes</i>	
21	23.167	5.6	9.49	17.25	0.15	115
22	23.167	5.6	9.49	17.25	0.15	115
23	23.167	5.6	9.53	17.29	0.15	115
24	23.167	5.6	9.65	17.4	0.15	115
F4	11.5		15.18			
25	23.167		10.36			
26	23.167		10.55			
27	23.167		10.78			
28	23.167		10.97			
F5	11.5		15.2			
29	11.5		14.96			
30	11.5		14.96			
31	11.5	5.6	14.96	21.66	0.15	115
32	11.5	5.6	15.04	21.72	0.15	115
F6	11.5		15.2			
L2	11.5		15.18			
N1	11.5		17.16			
N2	11.5		17.18			
N7	11.5		17.25			
N3	11.5		17.2			
N4	11.5		17.14			
N5	11.5		17.03			
N8	9.5		19.5			
TASR	9.5		24.05			
BASR	1.0		35.75			
TEST	1.0		36.57	250.0		

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 3

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Eqiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
1A to 1	8.500 9.667		0.0 0.0	1 1.049	T Eqv	5.0 43.0	1.000 48.000 49.000	120 0	16.483 -0.505 -0.001		Vel = 0	
1			0.0 0.0						15.977		K Factor = 0	
2A to 2	8.500 9.667		0.0 0.0	1 1.049	T Eqv	5.0 43.0	1.000 48.000 49.000	120 0	16.483 -0.505 -0.001		Vel = 0	
2			0.0 0.0						15.977		K Factor = 0	
3A to 3	8.500 9.667		0.0 0.0	1 1.049	T Eqv	5.0 43.0	1.000 48.000 49.000	120 0	16.483 -0.505 -0.001		Vel = 0	
3			0.0 0.0						15.977		K Factor = 0	
4A to 4	8.500 9.667		0.0 0.0	1 1.049	T Eqv	5.0 43.0	1.000 48.000 49.000	120 0	16.483 -0.505 -0.001		Vel = 0	
4			0.0 0.0						15.977		K Factor = 0	
11A to 11	8.500 11.500		0.0 0.0	1 1.049	E T Eqv	2.0 5.0 43.0	2.000 50.000 52.000	120 0	16.675 -1.299 0.0		Vel = 0	
11			0.0 0.0						15.376		K Factor = 0	
12A to 12	8.500 11.500		0.0 0.0	1 1.049	E T Eqv	2.0 5.0 43.0	8.000 50.000 58.000	120 0	16.798 -1.299 -0.001		Vel = 0	
12			0.0 0.0						15.498		K Factor = 0	
13A to 13	8.500 11.500		0.0 0.0	1 1.049	E T Eqv	2.0 5.0 43.0	2.000 50.000 52.000	120 0	16.866 -1.299 -0.001		Vel = 0	
13			0.0 0.0						15.566		K Factor = 0	
14A to 14	8.500 11.500		0.0 0.0	1 1.049	E T Eqv	2.0 5.0 43.0	2.000 50.000 52.000	120 0	16.926 -1.299 0.0		Vel = 0	
14			0.0 0.0						15.627		K Factor = 0	
15A to 15	8.500 11.500		0.0 0.0	1 1.049	E T Eqv	2.0 5.0 43.0	2.000 50.000 52.000	120 0	16.966 -1.299 0.0		Vel = 0	
15			0.0 0.0						15.667		K Factor = 0	
16A to 16	8.500 11.500		0.0 0.0	1 1.049	E T Eqv	2.0 5.0 43.0	2.000 50.000 52.000	120 0	17.102 -1.299 -0.001		Vel = 0	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 3

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Date 9/11/25

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
16			0.0 0.0						15.802		K Factor = 0	
17A to 17	8.500 11.500		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	8.000 50.000 58.000	120 0	17.275 -1.299 0.0			Vel = 0
17			0.0 0.0						15.976		K Factor = 0	
18A to 18	8.500 11.500		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	17.308 -1.299 0.0			Vel = 0
18			0.0 0.0						16.009		K Factor = 0	
25A to 25	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	16.714 -6.352 0.0			Vel = 0
25			0.0 0.0						10.362		K Factor = 0	
26A to 26	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	16.907 -6.352 -0.001			Vel = 0
26			0.0 0.0						10.554		K Factor = 0	
27A to 27	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	17.133 -6.352 0.0			Vel = 0
27			0.0 0.0						10.781		K Factor = 0	
28A to 28	8.500 23.167		0.0 0.0	1 1.049	E T Eql	2.0 5.0 43.0	2.000 50.000 52.000	120 0	17.325 -6.352 0.0			Vel = 0
28			0.0 0.0						10.973		K Factor = 0	
29A to 29	20.500 11.500	5.60	16.04 16.04	1 1.049	2E T	4.0 5.0	24.000 9.000 33.000	120 0.0865	8.207 3.898 2.855			Vel = 5.95
29			0.0 16.04						14.960		K Factor = 4.15	
30A to 30	20.500 11.500	5.60	17.40 17.4	1 1.049	T	5.0	9.000 5.000 14.000	120 0.1006	9.654 3.898 1.408			Vel = 6.46
30			0.0 17.40						14.960		K Factor = 4.50	
1 to 2	9.667 9.667		0.0 0.0	2 2.157			4.000 4.000	120 0	15.977 0.0 0.0			Vel = 0
2 to 3	9.667 9.667		0.0 0.0	2 2.157			8.000 8.000	120 0	15.977 0.0 0.0			Vel = 0

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 3

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
3 to L1	9.667 9.667		0.0 0.0	2 2.157		4.000 4.000	120 0	15.977 0.0 0.0			
L1			0.0 0.0					15.977		K Factor = 0	
4 to L1	9.667 9.667		0.0 0.0	2 2.157		5.667 5.667	120 0	15.977 0.0 0.0			
L1 to L2	9.667 11.500		0.0 0.0	2 2.157	2T 2E 24.613 12.307	11.500 36.920 48.420	120 0	15.977 -0.794 0.001			
L2			0.0 0.0					15.184		K Factor = 0	
F1 to 5	11.500 15.667		-62.01 -62.01	2 2.157	E T 6.153 12.307	5.000 18.460 23.460	120 -0.0315	15.066 -1.805 -0.740			
5 to 6	15.667 15.667	5.60	19.81 -42.2	2 2.157		7.667 7.667	120 -0.0154	12.521 0.0 -0.118			
6 to 7	15.667 15.667	5.60	19.72 -22.48	2 2.157		7.667 7.667	120 -0.0048	12.403 0.0 -0.037			
7 to 8	15.667 15.667	5.60	19.70 -2.78	2 2.157		7.667 7.667	120 -0.0001	12.366 0.0 -0.001			
8 to 9	15.667 15.667	5.60	19.69 16.91	2 2.157		7.667 7.667	120 0.0029	12.365 0.0 0.022			
9 to 10	15.667 15.667	5.60	19.71 36.62	2 2.157		7.667 7.667	120 0.0119	12.387 0.0 0.091			
10 to N1	15.667 11.500	5.60	19.78 56.4	2 2.157	5E T 30.767 12.307	65.833 43.074 108.907	120 0.0265	12.478 1.805 2.882			
N1			0.0 56.40					17.165		K Factor = 13.61	
F2 to 11	11.500 11.500		44.33 44.33	2 2.157	T 12.307	1.917 12.307 14.224	120 0.0170	15.134 0.0 0.242			
11 to 12	11.500 11.500		0.0 44.33	2 2.157		7.250 7.250	120 0.0168	15.376 0.0 0.122			
12 to 13	11.500 11.500		0.0 44.33	2 2.157		4.000 4.000	120 0.0170	15.498 0.0 0.068			
13 to 14	11.500 11.500		0.0 44.33	2 2.157		3.583 3.583	120 0.0170	15.566 0.0 0.061			

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 3

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Date 9/11/25

Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
14 to 15	11.500 11.500		0.0 44.33	2 2.157			2.333 2.333	120 0.0171	15.627 0.0 0.040		Vel = 3.89	
15 to 16	11.500 11.500		0.0 44.33	2 2.157			8.000 8.000	120 0.0169	15.667 0.0 0.135		Vel = 3.89	
16 to 17	11.500 11.500		0.0 44.33	2 2.157			10.250 10.250	120 0.0170	15.802 0.0 0.174		Vel = 3.89	
17 to 18	11.500 11.500		0.0 44.33	2 2.157			1.917 1.917	120 0.0172	15.976 0.0 0.033		Vel = 3.89	
18 to N2	11.500 11.500		0.0 44.33	2 2.157	T	12.307	57.083 12.307 69.390	120 0.0169	16.009 0.0 1.176		Vel = 3.89	
N2			0.0 44.33						17.185		K Factor = 10.69	
F3 to 19	11.500 23.167		-44.94 -44.94	2 2.157	E T	6.153 12.307	12.500 18.460 30.960	120 -0.0174	15.143 -5.053 -0.538		Vel = 3.95	
19 to 20	23.167 23.167	5.60	17.30 -27.64	2 2.157			7.667 7.667	120 -0.0072	9.552 0.0 -0.055		Vel = 2.43	
20 to 21	23.167 23.167	5.60	17.26 -10.38	2 2.157			7.667 7.667	120 -0.0010	9.497 0.0 -0.008		Vel = 0.91	
21 to 22	23.167 23.167	5.60	17.25 6.87	2 2.157			7.667 7.667	120 0.0005	9.489 0.0 0.004		Vel = 0.60	
22 to 23	23.167 23.167	5.60	17.25 24.12	2 2.157			7.667 7.667	120 0.0055	9.493 0.0 0.042		Vel = 2.12	
23 to 24	23.167 23.167	5.60	17.30 41.42	2 2.157			7.667 7.667	120 0.0150	9.535 0.0 0.115		Vel = 3.64	
24 to N3	23.167 11.500	5.60	17.39 58.81	2 2.157	E T	6.153 12.307	68.833 18.460 87.293	120 0.0286	9.650 5.053 2.496		Vel = 5.16	
N3			0.0 58.81						17.199		K Factor = 14.18	
F4 to 25	11.500 23.167		43.09 43.09	2 2.157	T	12.307	2.250 12.307 14.557	120 0.0161	15.180 -5.053 0.235		Vel = 3.78	
25 to 26	23.167 23.167		0.0 43.09	2 2.157			12.000 12.000	120 0.0160	10.362 0.0 0.192		Vel = 3.78	
26 to 27	23.167 23.167		0.0 43.09	2 2.157			14.083 14.083	120 0.0161	10.554 0.0 0.227		Vel = 3.78	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 3

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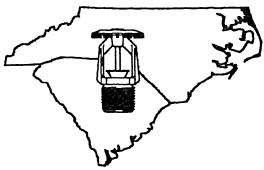
Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
27 to 28	23.167 23.167		0.0 43.09	2 2.157		11.917 11.917	120 0.0161	10.781 0.0 0.192		Vel = 3.78	
28 to N4	23.167 11.500		0.0 43.09	2 2.157	T 12.307	57.000 12.307 69.307	120 0.0161	10.973 5.053 1.114		Vel = 3.78	
N4			0.0 43.09					17.140		K Factor = 10.41	
F5 to 29	11.500 11.500		-22.09 -22.09	2 2.157	E T 12.307	32.000 18.460 50.460	120 -0.0047	15.196 0.0 -0.236		Vel = 1.94	
29 to 30	11.500 11.500		16.04 -6.05	2 2.157		0.750 0.750	120 0	14.960 0.0 0.0		Vel = 0.53	
30 to 31	11.500 11.500		17.40 11.35	2 2.157		3.000 3.000	120 0.0013	14.960 0.0 0.004		Vel = 1.00	
31 to 32	11.500 11.500	5.60	21.67 33.02	2 2.157		8.000 8.000	120 0.0099	14.964 0.0 0.079		Vel = 2.90	
32 to N5	11.500 11.500	5.60	21.72 54.74	2 2.157	E T 12.307	61.000 18.460 79.460	120 0.0250	15.043 0.0 1.989		Vel = 4.81	
N5			0.0 54.74					17.032		K Factor = 13.26	
F6 to N6	11.500 0		41.62 41.62	2 2.157	2T 24.613	96.333 24.613 120.946	120 0.0151	15.205 4.981 1.824		Vel = 3.65	
N6			0.0 41.62					22.010		K Factor = 8.87	
F1 to F2	11.500 11.500		62.01 62.01	2.5 2.635		5.750 5.750	120 0.0118	15.066 0.0 0.068		Vel = 3.65	
F2 to F3	11.500 11.500		-44.33 17.68	2.5 2.635		7.333 7.333	120 0.0012	15.134 0.0 0.009		Vel = 1.04	
F3 to F4	11.500 11.500		44.94 62.62	2.5 2.635		3.083 3.083	120 0.0120	15.143 0.0 0.037		Vel = 3.68	
F4 to L2	11.500 11.500		-43.09 19.53	2.5 2.635		2.250 2.250	120 0.0018	15.180 0.0 0.004		Vel = 1.15	
L2 to F5	11.500 11.500		0.0 19.53	2.5 2.635		9.083 9.083	120 0.0013	15.184 0.0 0.012		Vel = 1.15	
F5 to F6	11.500 11.500		22.09 41.62	2.5 2.635		1.500 1.500	120 0.0060	15.196 0.0 0.009		Vel = 2.45	

Final Calculations : Hazen-Williams

Carolina Fire Protection, Inc.
Good Hope remote area 3

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Node1 to Node2	Elev1 Elev2	K Fact	Qa Qt	Nom Act	Fitting or Equiv	Len	Pipe Ftngs Total	CFact Pf/Ft	Pt Pe Pf	*****	Notes	*****
F6			0.0 41.62						15.205		K Factor = 10.67	
N1 to N2	11.500 11.500		56.40 56.4	3 3.26			5.750 5.750	120 0.0035	17.165 0.0 0.020		Vel = 2.17	
N2 to N7	11.500 11.500		44.33 100.73	3 3.26			6.000 6.000	120 0.0103	17.185 0.0 0.062		Vel = 3.87	
N7 to N3	11.500 11.500		-298.99 -198.26	3 3.26			1.333 1.333	120 -0.0360	17.247 0.0 -0.048		Vel = 7.62	
N3 to N4	11.500 11.500		58.81 -139.45	3 3.26			3.083 3.083	120 -0.0191	17.199 0.0 -0.059		Vel = 5.36	
N4 to N5	11.500 11.500		43.09 -96.36	3 3.26			11.333 11.333	120 -0.0095	17.140 0.0 -0.108		Vel = 3.70	
N5 to N6	11.500 0		54.74 -41.62	3 3.26			1.500 1.500	120 -0.0020	17.032 4.981 -0.003		Vel = 1.60	
N6			0.0 -41.62						22.010		K Factor = -8.87	
N7 to N8	11.500 9.500		298.99 298.99	4 4.26	2E T	17.907 26.334	21.750 44.241 65.991	120 0.0211	17.247 0.866 1.390		Vel = 6.73	
N8 to TASR	9.500 9.500		0.0 298.99	4 4.26	5E	44.768	171.000 44.768 215.768	120 0.0211	19.503 0.0 4.543		Vel = 6.73	
TASR to BASR	9.500 1		0.0 298.99	4 4.26	B 2E Zcj	15.8 17.907 0.0	15.000 33.707 48.707	120 0.0211	24.046 10.678 1.026		* * Fixed Loss = 6.997 Vel = 6.73	
BASR to TEST	1 1		0.0 298.99	6 6.16	3E T 2G	60.252 43.037 8.607	200.000 111.896 311.896	140 0.0026	35.750 0.0 0.820		Vel = 3.22	
TEST			250.00 548.99						36.570		Qa = 250.00 K Factor = 90.78	



Carolina Fire Protection, Inc.

P.O. Box 250
Dunn, NC 28335

Phone: (910) 892-1700
Fax: (910) 892-7322

Hydrant Flow Test

SERVICE LOCATION:

Address: _____ 410 Denim Drive Erwin, NC 28339 _____

Proposed Tap Location: _____ N/A _____

Requested Flow Location: _____ See marked-up Map _____

TESTING AGENT:

Firm Name: _____ Carolina Fire Protection, Inc. _____

Address: _____ 4055 Hodges Chapel Rd Dunn, NC _____

Phone: _____ (910) 892-1700 _____ Fax: _____ (910) 892-7322 _____

RESULTS:

Static Pressure: _____ 47 _____ psi Flowing Pressure: _____ 19 _____ psi

Residual Pressure: _____ 42 _____ psi Volume: _____ 729 _____ gpm

Comments: _____

Completed By: _____ Andrew Dorman _____ Date: _____ 9/09/2025 _____

Signature: _____ Time of Test: _____ 10:30am _____

FIRE FLOW LOCATION SKETCH: (See Map on Page 2)



