

**SMITH FIRE SYSTEMS, INC**

1106 54TH AVENUE EAST TACOMA, WASHINGTON 98424

(253) 926-1880 Fax (253) 926-2350

CONTR. REG. NO. SMITHFS1360T

**GENERAL / HYDRAULIC CALCULATION INFORMATION SHEET**

PROJECT NAME:	BRADLEY HEIGHTS	JOB NO. :	TC25207	OWNER :	
	BUILDING G	DATE:	12/4/2025	CRP/TP BRADLEY HEIGHTS LLC	
ADDRESS:	206 27TH AVE SE	BY:	A. RIDEOUT	AHJ :	
	PUYALLUP, WA 98374			PUYALLUP	

SYSTEM DESIGNATION: **SYSTEM #1 -L3 (4) HEAD COMPARTMENT**DESIGN PER: **NFPA 13R (2019 EDITION)**OCCUPANCY CLASSIFICATION: **RESIDENTIAL****DESIGN CRITERIA:**NFPA SECTION: **7.2.3**
AREA MODIFIER **N/A**SPRINKLER MANUFACTURER: **RELIABLE**
K-FACTOR: **4.9K**
MODEL: **F1RES49**
TEMPERATURE: **155°**
RESPONSE TYPE: **QR**SYSTEM TYPE: **WET**
MAX CEILING HEIGHT: **9'-1"**
CEILING HEIGHT: **9'-1"**
ROOF SLOPE: **4:12**
CEILING SLOPE: **2:12**TOTAL SPRINKLERS CALCULATED: **4**
MAX AREA OF COVERAGE PER SPRINKLER: **256 SQ. FT**
MAX DISTANCE BETWEEN SPRINKLERS: **16 FT**FIRE PUMP: **N**
RATED CAPACITY OF PUMP: **N/A****DESIGN AREA**

THE (4) HYDRAULICALLY MOST DEMANDING ADJACENT SPRINKLERS DELIVERING .05 GPM/SQ. FT. OR PER THE SPRINKLER LISTING, WHICHEVER IS MORE DEMANDING.

ALLOWANCES INCLUDED IN CALCULATIONS:OUTSIDE HOSE **0 GPM**ADDED AT:

CITY CONNECTION

WATER SUPPLY:

ELEVATION OF TEST: 0 FT.

ELEVATION OF LEVEL 1: 0 FT.

MAIN DRAIN TEST:

STATIC **95 PSI**

DATE OF TEST: 4/19/2001

S: R:

RESIDUAL **90 PSI**

DATA PROVIDED BY: FRUITLAND WATER

INSPECTORS TEST:

FLOW **1055 GPM**

LOCATION OF TEST: FH @ 207 27TH AVE SE

TRIP TIME:

WET SYSTEM NUMBER 1

AREA	SQ. FT.	SPRINKLERS
FLOOR 1	11920	119
FLOOR 2	11390	112
FLOOR 3	11774	122

TOTAL: 35,084 353

NOTES:**MOST DEMANDING AREA: SYS. 1**

MOST DEMANDING (4) SPRINKLER(S) AT 7 PSI

BASE OF RISER: 64.0 GPM REQUIRED AT 62.2 PSI**SUMMARY:** 64.0 GPM REQUIRED AT 73.9 PSIAT CONNECTION TO **SOURCE**(INCLUDING **0** GPM FOR HOSE STREAMS)



SMITH FIRE SYSTEMS, INC.

WATER SUPPLY DATA

STATIC 90 PSI
RESIDUAL 95 PSI
FLOWING 1055 GPM

JOB NAME BRADLEY HEIGHTS APARTMENTS

ADDRESS 206 27TH AVE SE, BLDG G

DATE PUYALLUP, WA 98374

JOB NO. TC25207

SYSTEM/AREA SYS 1: (4) 16x16 RES49



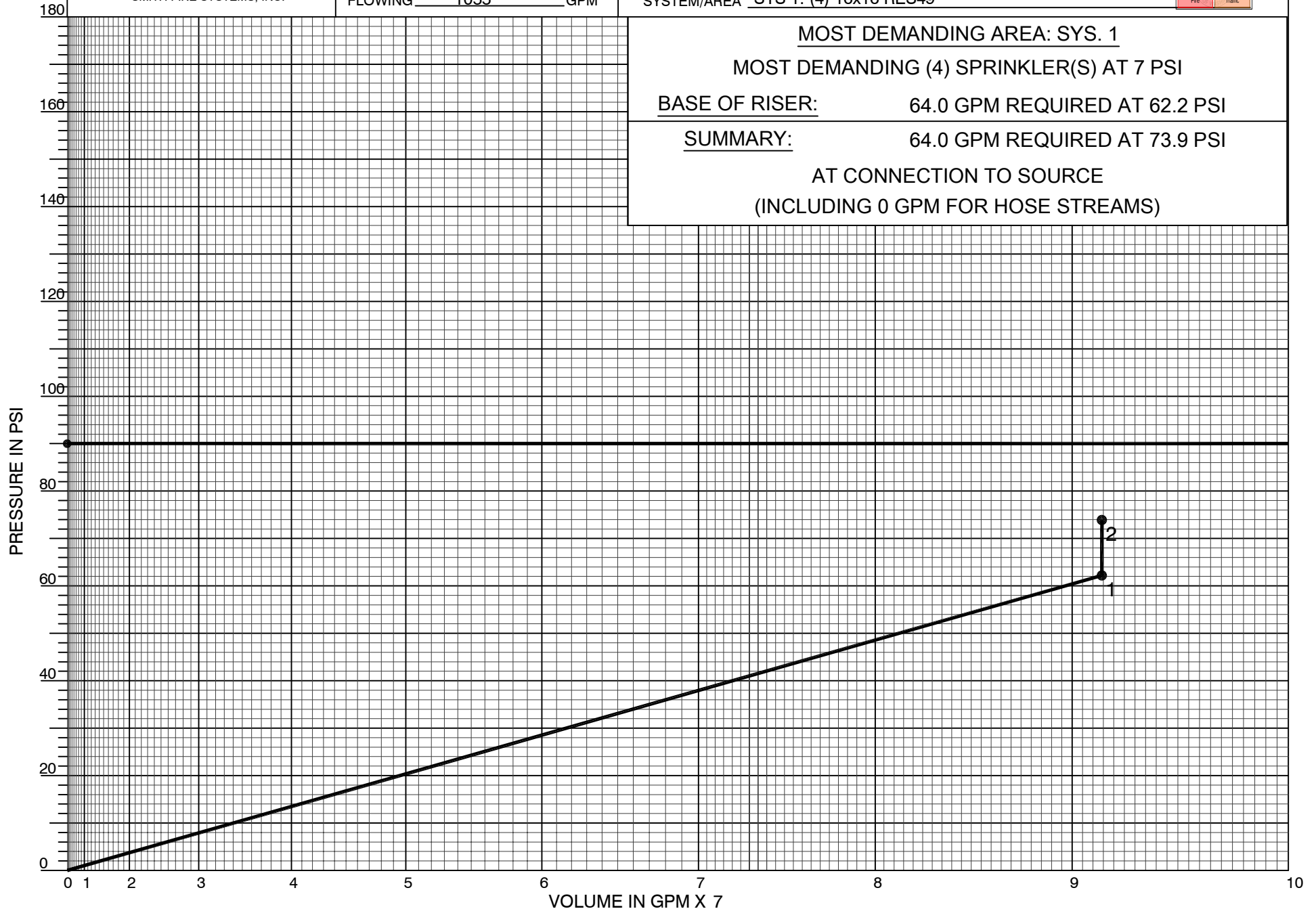
MOST DEMANDING AREA: SYS. 1

MOST DEMANDING (4) SPRINKLER(S) AT 7 PSI

BASE OF RISER: 64.0 GPM REQUIRED AT 62.2 PSI

SUMMARY: 64.0 GPM REQUIRED AT 73.9 PSI

AT CONNECTION TO SOURCE
(INCLUDING 0 GPM FOR HOSE STREAMS)



DATE: 12/5/2025RAULICS\HASS FILES\BUILDING G\G - (4) 16X16 RES49 7PSI.SDF

JOB TITLE: G - (4) 16x16 RES49 7PSI

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
-----------------------	---------------------------	---------------------------	--------------------	---------------------------	----------------------------	--------------------------

SOURCE	95.0	90.0	1055.0	95.0	64.0	73.9
--------	------	------	--------	------	------	------

Available pressure is 21.1 psi (22%) greater than required pressure.

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	64.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	64.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
S2	30.3	K= 4.90	7.8	13.7
S3	31.9	K= 4.90	7.0	13.0
S4	29.3	K= 4.90	14.9	18.9
S5	32.4	K= 4.90	14.2	18.5
B1	29.8	- - - -	8.5	- - -
B2	29.8	- - - -	16.0	- - -
M2	29.8	- - - -	16.1	- - -
M3	29.8	- - - -	16.8	- - -
31	29.7	- - - -	16.9	- - -
01	9.5	- - - -	31.0	- - -
TOR	14.5	- - - -	59.1	- - -
BFP1	7.6	- - - -	62.2	- - -
BFP2	7.6	- - - -	69.2	- - -
UG1	0.0	- - - -	38.7	- - -
UG2	0.0	- - - -	40.0	- - -
UG3	2.5	- - - -	45.7	- - -
UG4	2.5	- - - -	47.3	- - -
UG5	2.5	- - - -	54.0	- - -
UG6	2.5	- - - -	55.4	- - -
UG7	5.0	- - - -	70.4	- - -
UG8	5.0	- - - -	70.4	- - -
UG9	-3.0	- - - -	73.9	- - -
SOURCE	-3.0	SOURCE	73.9	64.0

DATE: 12/5/2025RAULICS\HASS FILES\BUILDING G\G - (4) 16X16 RES49 7PSI.SDF
 JOB TITLE: G - (4) 16x16 RES49 7PSI

PIPE DATA

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.	
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	(FT)	SUM.	
							FL/FT		(PSI)	
Pipe: 1										
S2		30.3	4.9	7.8	13.7	-13.7	1.101	PL	2.75	PF 0.4
B1		29.8	0.0	8.5	0.0	4.6	150	FTG	2T	PE 0.3
							0.034	TL	12.75	PV
Pipe: 2										
S3		31.9	4.9	7.0	13.0	-13.0	1.101	PL	6.75	PF 0.5
B1		29.8	0.0	8.5	0.0	4.4	150	FTG	ET	PE 0.9
							0.030	TL	16.75	PV
Pipe: 3										
S4		29.3	4.9	14.9	18.9	-18.9	1.101	PL	11.67	PF 1.3
B2		29.8	0.0	16.0	0.0	6.4	150	FTG	ET	PE -0.2
							0.061	TL	21.67	PV
Pipe: 4										
B1		29.8	0.0	8.5	0.0	-26.6	1.101	PL	31.17	PF 7.6
M2		29.8	0.0	16.1	0.0	9.0	150	FTG	6ET	PE 0.0
							0.115	TL	66.17	PV
Pipe: 5										
B2		29.8	0.0	16.0	0.0	-18.9	1.598	PL	6.00	PF 0.1
M2		29.8	0.0	16.1	0.0	3.0	150	FTG	----	PE 0.0
							0.010	TL	6.00	PV
Pipe: 6										
S5		32.4	4.9	14.2	18.5	-18.5	1.101	PL	14.42	PF 1.4
M3		29.8	0.0	16.8	0.0	6.2	150	FTG	2T	PE 1.2
							0.059	TL	24.42	PV
Pipe: 7										
M3		29.8	0.0	16.8	0.0	-18.5	1.598	PL	5.25	PF 0.1
31		29.7	0.0	16.9	0.0	3.0	150	FTG	T	PE 0.0
							0.010	TL	13.25	PV
Pipe: 8										
M2		29.8	0.0	16.1	0.0	-45.5	1.598	PL	7.75	PF 0.8
31		29.7	0.0	16.9	0.0	7.3	150	FTG	T	PE 0.0
							0.051	TL	15.75	PV
Pipe: 9										
31		29.7	0.0	16.9	0.0	-64.0	1.598	PL	20.24	PF 5.4
01		9.5	0.0	31.0	0.0	10.2	150	FTG	4ET	PE 8.8
							0.095	TL	56.24	PV
Pipe: 10										
01		9.5	0.0	31.0	0.0	-64.0	1.598	PL	15.00	PF 3.5
UG1		0.0	0.0	38.7	0.0	10.2	150	FTG	2ET	PE 4.1
							0.095	TL	37.00	PV
Pipe: 11										
UG1		0.0	0.0	38.7	0.0	-64.0	2.003	PL	25.08	PF 1.4
UG2		0.0	0.0	40.0	0.0	6.5	150	FTG	2E	PE 0.0
							0.032	TL	43.08	PV
Pipe: 12										
UG2		0.0	0.0	40.0	0.0	-64.0	1.598	PL	55.00	PF 6.8
UG3		2.5	0.0	45.7	0.0	10.2	150	FTG	2T	PE -1.1
							0.095	TL	71.00	PV
Pipe: 13										
UG3		2.5	0.0	45.7	0.0	-64.0	2.003	PL	30.33	PF 1.5
UG4		2.5	0.0	47.3	0.0	6.5	150	FTG	2E	PE 0.0
							0.032	TL	48.33	PV

DATE: 12/5/2025RAULICS\HASS FILES\BUILDING G\G - (4) 16X16 RES49 7PSI.SDF
JOB TITLE: G - (4) 16x16 RES49 7PSI

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.	
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	(FT)	SUM.	
							FL/FT		(PSI)	
	Pipe: 14					-64.0	1.598 PL	55.00	PF	6.8
UG4		2.5	0.0	47.3	0.0	10.2	150 FTG	2T	PE	0.0
UG5		2.5	0.0	54.0	0.0		0.095 TL	71.00	PV	
	Pipe: 15					-64.0	2.003 PL	25.08	PF	1.4
UG5		2.5	0.0	54.0	0.0	6.5	150 FTG	2E	PE	0.0
UG6		2.5	0.0	55.4	0.0		0.032 TL	43.08	PV	
	Pipe: 16					-64.0	1.598 PL	44.00	PF	8.9
UG6		2.5	0.0	55.4	0.0	10.2	150 FTG	7E	PE	-5.2
TOR		14.5	0.0	59.1	0.0		0.095 TL	93.00	PV	
	Pipe: 17					-64.0	2.185 PL	6.92	PF	0.1
TOR		14.5	0.0	59.1	0.0	5.5	150 FTG	----	PE	3.0
BFP1		7.6	0.0	62.2	0.0		0.021 TL	6.92	PV	
	Pipe: 18						FIXED PRESSURE LOSS DEVICE			
BFP2		7.6	0.0	69.2	0.0		7.0 psi,	64.0 gpm		
BFP1		7.6	0.0	62.2	0.0					
	Pipe: 19					-64.0	4.100 PL	50.50	PF	0.1
BFP2		7.6	0.0	69.2	0.0	1.6	140 FTG	ET2G	PE	1.1
UG7		5.0	0.0	70.4	0.0		0.001 TL	91.50	PV	
	Pipe: 20					-64.0	8.270 PL	120.00	PF	0.0
UG7		5.0	0.0	70.4	0.0	0.4	140 FTG	2ETG	PE	0.0
UG8		5.0	0.0	70.4	0.0		0.000 TL	209.00	PV	
	Pipe: 21					-64.0	12.340 PL	19.25	PF	0.0
UG8		5.0	0.0	70.4	0.0	0.2	140 FTG	TFG	PE	3.5
UG9		-3.0	0.0	73.9	0.0		0.000 TL	126.25	PV	
	Pipe: 22					-64.0	6.160 PL	15.50	PF	0.0
UG9		-3.0	0.0	73.9	0.0	0.7	140 FTG	EG	PE	0.0
SOURCE		-3.0	SRCE	73.9	(N/A)		0.000 TL	31.50	PV	

NOTES (HASS):

- Calculations were performed by the HASS computer program in accordance with NFPA (2020) under license no. 64621553 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760
- The system has been calculated to provide an average imbalance at each node of 0.003 gpm and a maximum imbalance at any node of 0.066 gpm.
- Total pressure at each node is used in balancing the system. Maximum water velocity is 10.2 ft/sec at pipe 9.

DATE: 12/5/2025RAULICS\HASS FILES\BUILDING G\G - (4) 16X16 RES49 7PSI.SDF

JOB TITLE: G - (4) 16x16 RES49 7PSI

(4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.

(5) Available pressure at source node SOURCE under full flow conditions is
94.96 psi with a flow of 76.63 gpm.

(6) PIPE FITTINGS TABLE

User Pipe Table Name: SMITH

PAGE: D	MATERIAL: DI	HWC: 140				
Diameter	Equivalent Fitting Lengths in Feet					
(in)	E	T	F	C	B	G
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv
4.100	8.00	27.00	6.00	30.00	20.00	3.00
6.160	12.00	40.00	10.00	43.00	16.00	4.00
8.270	18.00	47.00	12.00	60.00	20.00	6.00
12.340	24.00	80.00	19.00	87.00	34.00	8.00

PAGE: P	MATERIAL: CPVC	HWC: 150					
Diameter	Equivalent Fitting Lengths in Feet						
(in)	E	T	F	R	C	G	B
	Ell	Tee	45	teeRun	Coup	Gva	Bfy
1.101	5.00	5.00	1.00	1.00	1.00	1.00	4.00
1.598	7.00	8.00	2.00	1.00	1.00	1.00	6.00
2.003	9.00	10.00	2.00	1.00	1.00	2.00	7.00

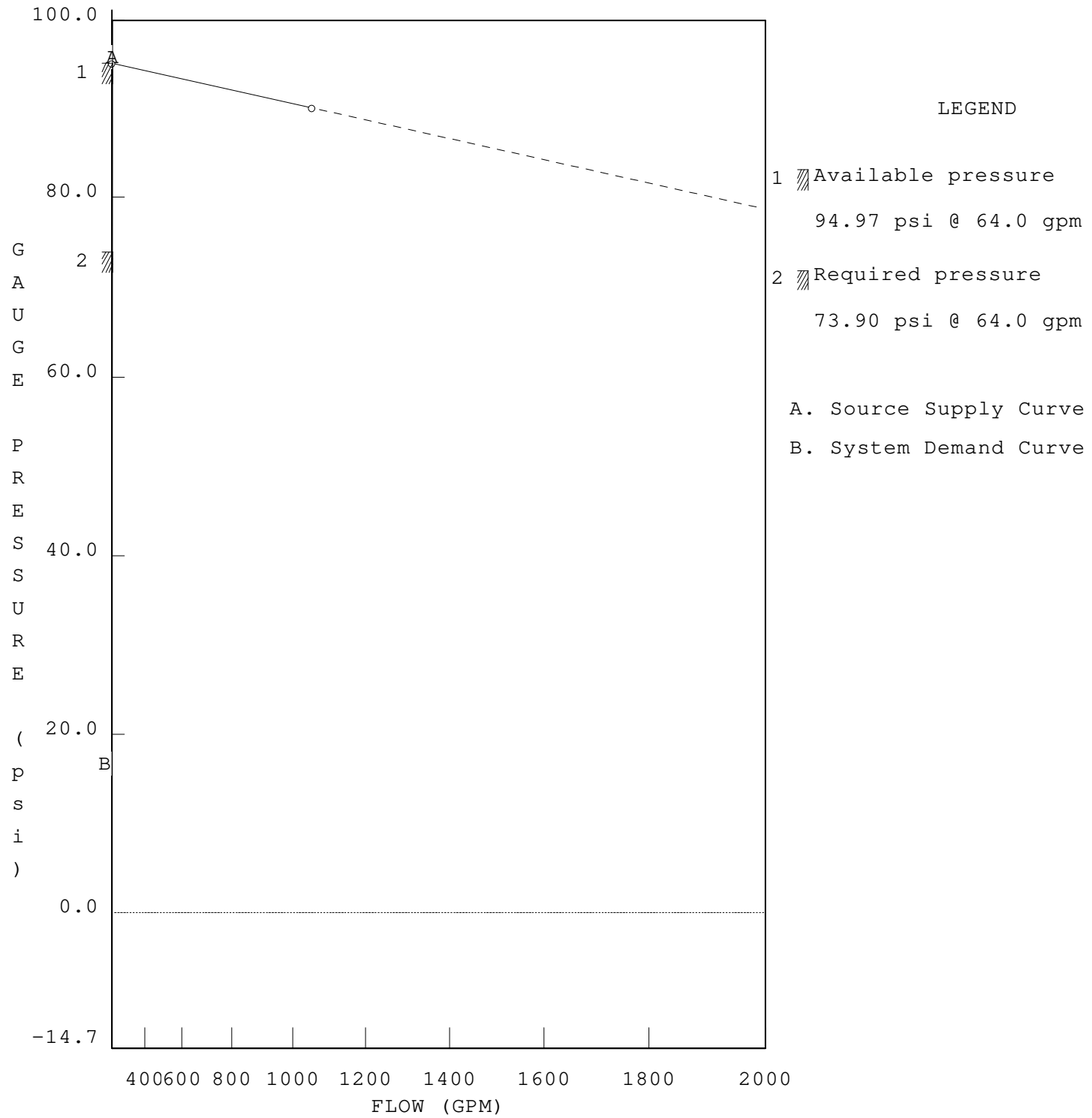
PAGE: Y	MATERIAL: SCH7		HWC: 120						
Diameter	Equivalent Fitting Lengths in Feet								
(in)	E	T	F	C	B	G	A	D	X
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv	AlmChk	DPVlv	flex
2.185	4.60	15.20	2.40	14.40	6.20	1.00	12.40	12.40	0.00

DATE: 12/5/2025RAULICS\HASS FILES\BUILDING G\G - (4) 16X16 RES49 7PSI.SDF

JOB TITLE: G - (4) 16x16 RES49 7PSI

WATER SUPPLY ANALYSIS

Static: 95.00 psi Resid: 90.00 psi Flow: 1055.0 gpm

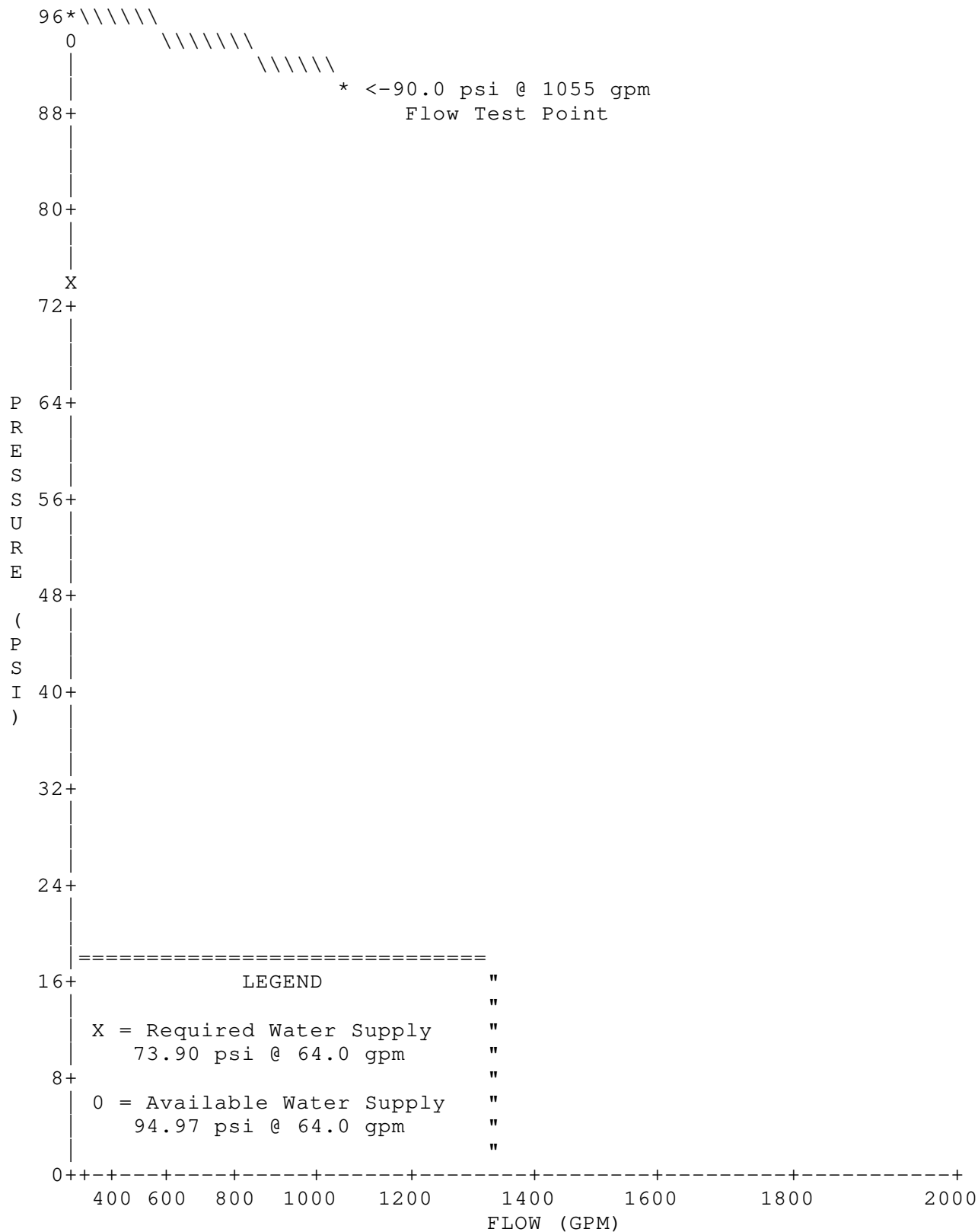


Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 12/5/2025RAULICS\HASS FILES\BUILDING G\G - (4) 16X16 RES49 7PSI.SDF

JOB TITLE: G - (4) 16x16 RES49 7PSI

WATER SUPPLY CURVE



**SMITH FIRE SYSTEMS, INC.
JOB NO. TC25207
BRADLEY HEIGHTS: BUILDING G**

SYSTEM # 1

L3 (1) HEAD COMPARTMENT

AUXILIARY HYDRAULIC CALCULATION

DENSITY: 0.05 GPM OVER 1 HEADS

SYSTEM DEMAND AT BASE OF RISER

20 GPM AT 33.9 PSI

DATE: 12/5/2025LES\BUILDING G\AUX SYSTEMS\G - (1) 20X20 RES49 16.7PSI.SDF
 JOB TITLE: G - (1) 20x20 RES49 16.7PSI

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	95.0	90.0	1055.0	95.0	20.0	46.5

Available pressure is 48.5 psi (51%) greater than required pressure.

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	20.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	20.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
S1	29.3	K= 4.90	16.7	20.0
M1	29.8	- - - -	19.8	- - -
31	29.8	- - - -	20.1	- - -
01	9.5	- - - -	29.5	- - -
TOR	14.5	- - - -	30.8	- - -
BFP1	7.6	- - - -	33.9	- - -
BFP2	7.6	- - - -	41.9	- - -
UG1	0.0	- - - -	33.9	- - -
UG2	0.0	- - - -	34.1	- - -
UG3	2.5	- - - -	33.8	- - -
UG4	2.5	- - - -	34.0	- - -
UG5	2.5	- - - -	34.8	- - -
UG6	2.5	- - - -	34.9	- - -
UG7	5.0	- - - -	43.0	- - -
UG8	5.0	- - - -	43.0	- - -
UG9	-3.0	- - - -	46.5	- - -
SOURCE	-3.0	SOURCE	46.5	20.0

DATE: 12/5/2025 LES\BUILDING G\AUX SYSTEMS\G - (1) 20X20 RES49 16.7PSI.SDF
 JOB TITLE: G - (1) 20x20 RES49 16.7PSI

PIPE DATA

PIPE TAG						Q (GPM)	DIA (IN)		LENGTH	PRESS.	
END	ELEV.	NOZ.	PT	DISC.	VEL (FPS)	HW (C)			(FT)	SUM.	
NODES	(FT)	(K)	(PSI)	(GPM)		FL/FT				(PSI)	
Pipe: 1											
S1					-20.0	1.101	PL	18.58	PF	3.3	
	29.3	4.9	16.7	20.0	6.7	150	FTG	5ET	PE	-0.2	
M1	29.8	0.0	19.8	0.0		0.068	TL	48.58	PV		
Pipe: 2											
M1					-20.0	1.598	PL	20.50	PF	0.3	
	29.8	0.0	19.8	0.0	3.2	150	FTG	T	PE	0.0	
31	29.8	0.0	20.1	0.0		0.011	TL	28.50	PV		
Pipe: 3											
31					-20.0	1.598	PL	20.25	PF	0.6	
	29.8	0.0	20.1	0.0	3.2	150	FTG	4ET	PE	8.8	
01	9.5	0.0	29.5	0.0		0.011	TL	56.25	PV		
Pipe: 4											
01					-20.0	1.598	PL	15.00	PF	0.3	
	9.5	0.0	29.5	0.0	3.2	150	FTG	2E	PE	4.1	
UG1	0.0	0.0	33.9	0.0		0.011	TL	29.00	PV		
Pipe: 5											
UG1					-20.0	2.003	PL	25.08	PF	0.2	
	0.0	0.0	33.9	0.0	2.0	150	FTG	2E	PE	0.0	
UG2	0.0	0.0	34.1	0.0		0.004	TL	43.08	PV		
Pipe: 6											
UG2					-20.0	1.598	PL	55.00	PF	0.8	
	0.0	0.0	34.1	0.0	3.2	150	FTG	2T	PE	-1.1	
UG3	2.5	0.0	33.8	0.0		0.011	TL	71.00	PV		
Pipe: 7											
UG3					-20.0	2.003	PL	30.33	PF	0.2	
	2.5	0.0	33.8	0.0	2.0	150	FTG	2E	PE	0.0	
UG4	2.5	0.0	34.0	0.0		0.004	TL	48.33	PV		
Pipe: 8											
UG4					-20.0	1.598	PL	55.00	PF	0.8	
	2.5	0.0	34.0	0.0	3.2	150	FTG	2T	PE	0.0	
UG5	2.5	0.0	34.8	0.0		0.011	TL	71.00	PV		
Pipe: 9											
UG5					-20.0	2.003	PL	25.08	PF	0.2	
	2.5	0.0	34.8	0.0	2.0	150	FTG	2E	PE	0.0	
UG6	2.5	0.0	34.9	0.0		0.004	TL	43.08	PV		
Pipe: 10											
UG6					-20.0	1.598	PL	50.00	PF	1.1	
	2.5	0.0	34.9	0.0	3.2	150	FTG	7E	PE	-5.2	
TOR	14.5	0.0	30.8	0.0		0.011	TL	99.00	PV		
Pipe: 11											
TOR					-20.0	2.185	PL	6.92	PF	0.0	
	14.5	0.0	30.8	0.0	1.7	150	FTG	----	PE	3.0	
BFP1	7.6	0.0	33.9	0.0		0.002	TL	6.92	PV		
Pipe: 12											
BFP2					FIXED PRESSURE LOSS DEVICE						
	7.6	0.0	41.9	0.0	8.0 psi, 20.0 gpm						
BFP1	7.6	0.0	33.9	0.0							
Pipe: 13											
BFP2					-20.0	4.100	PL	50.50	PF	0.0	
	7.6	0.0	41.9	0.0	0.5	140	FTG	ET2G	PE	1.1	
UG7	5.0	0.0	43.0	0.0		0.000	TL	91.50	PV		

DATE: 12/5/2025LES\BUILDING G\AUX SYSTEMS\G - (1) 20X20 RES49 16.7PSI.SDF

JOB TITLE: G - (1) 20x20 RES49 16.7PSI

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.
NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	FL/FT	(FT)	SUM.
									(PSI)
Pipe: 14					-20.0	8.270	PL	120.00	PF 0.0
UG7	5.0	0.0	43.0	0.0	0.1	140	FTG	2ETG	PE 0.0
UG8	5.0	0.0	43.0	0.0		0.000	TL	209.00	PV
Pipe: 15					-20.0	12.340	PL	19.25	PF 0.0
UG8	5.0	0.0	43.0	0.0	0.1	140	FTG	TFG	PE 3.5
UG9	-3.0	0.0	46.5	0.0		0.000	TL	126.25	PV
Pipe: 16					-20.0	6.160	PL	15.50	PF 0.0
UG9	-3.0	0.0	46.5	0.0	0.2	140	FTG	EG	PE 0.0
SOURCE	-3.0	SRCE	46.5	(N/A)		0.000	TL	31.50	PV

NOTES (HASS):

- (1) Calculations were performed by the HASS computer program in accordance with NFPA (2020) under license no. 64621553 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760
- (2) The system has been calculated to provide an average imbalance at each node of 0.003 gpm and a maximum imbalance at any node of 0.055 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 6.7 ft/sec at pipe 1.
- (4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.
- (5) Available pressure at source node SOURCE under full flow conditions is 94.99 psi with a flow of 35.07 gpm.
- (6) PIPE FITTINGS TABLE

User Pipe Table Name: SMITH

DATE: 12/5/2025LES\BUILDING G\AUX SYSTEMS\G - (1) 20X20 RES49 16.7PSI.SDF

JOB TITLE: G - (1) 20x20 RES49 16.7PSI

PAGE: D MATERIAL: DI HWC: 140

Diameter (in)	Equivalent Fitting Lengths in Feet					
	E	T	F	C	B	G
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv
4.100	8.00	27.00	6.00	30.00	20.00	3.00
6.160	12.00	40.00	10.00	43.00	16.00	4.00
8.270	18.00	47.00	12.00	60.00	20.00	6.00
12.340	24.00	80.00	19.00	87.00	34.00	8.00

PAGE: P MATERIAL: CPVC HWC: 150

Diameter (in)	Equivalent Fitting Lengths in Feet						
	E	T	F	R	C	G	B
	Ell	Tee	45	teeRun	Coup	Gva	Bfy
1.101	5.00	5.00	1.00	1.00	1.00	1.00	4.00
1.598	7.00	8.00	2.00	1.00	1.00	1.00	6.00
2.003	9.00	10.00	2.00	1.00	1.00	2.00	7.00

PAGE: Y MATERIAL: SCH7 HWC: 120

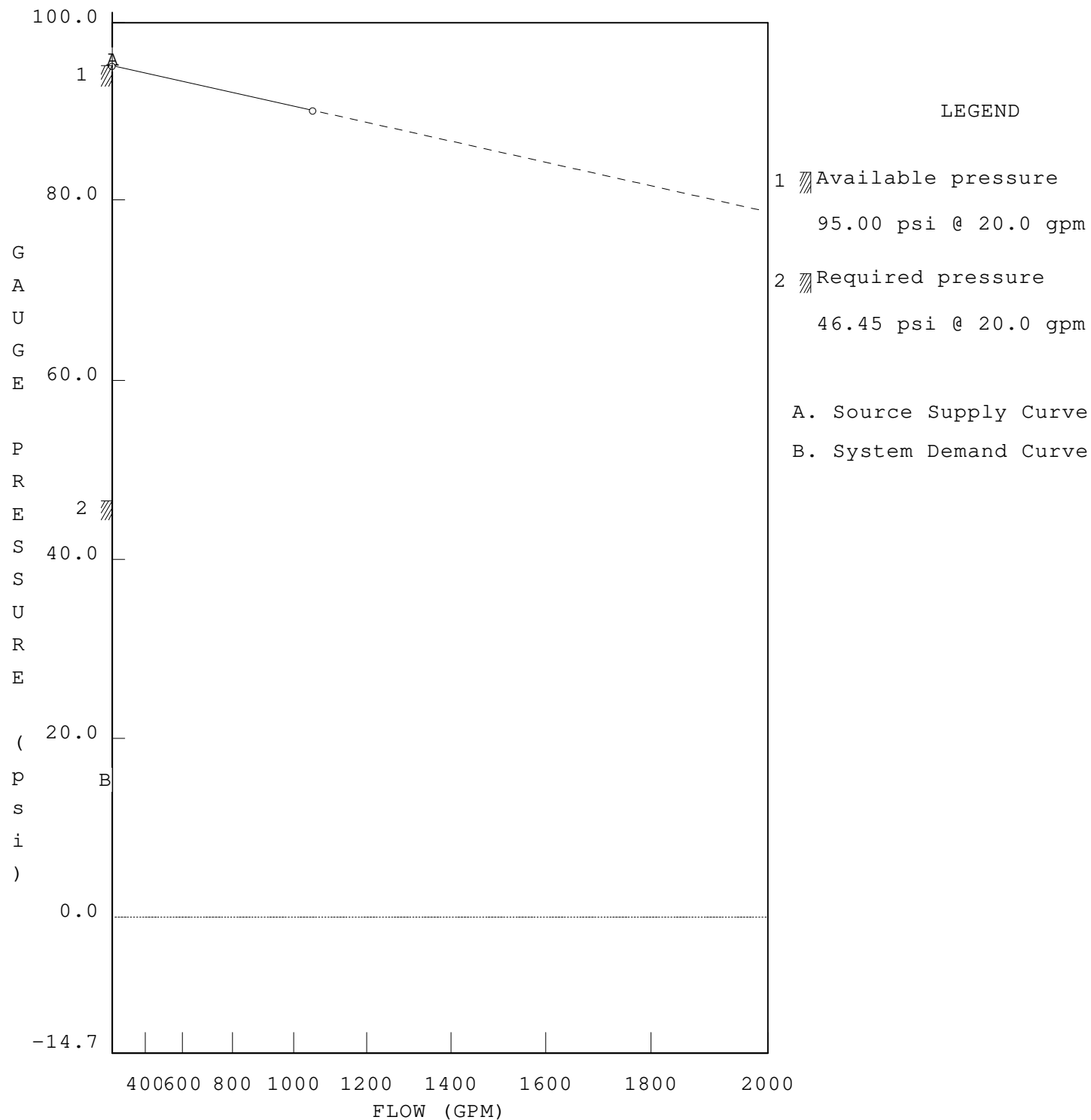
Diameter (in)	Equivalent Fitting Lengths in Feet								
	E	T	F	C	B	G	A	D	X
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv	AlmChk	DPVlv	flex
2.185	4.60	15.20	2.40	14.40	6.20	1.00	12.40	12.40	0.00

DATE: 12/5/2025LES\BUILDING G\AUX SYSTEMS\G - (1) 20X20 RES49 16.7PSI.SDF

JOB TITLE: G - (1) 20x20 RES49 16.7PSI

WATER SUPPLY ANALYSIS

Static: 95.00 psi Resid: 90.00 psi Flow: 1055.0 gpm

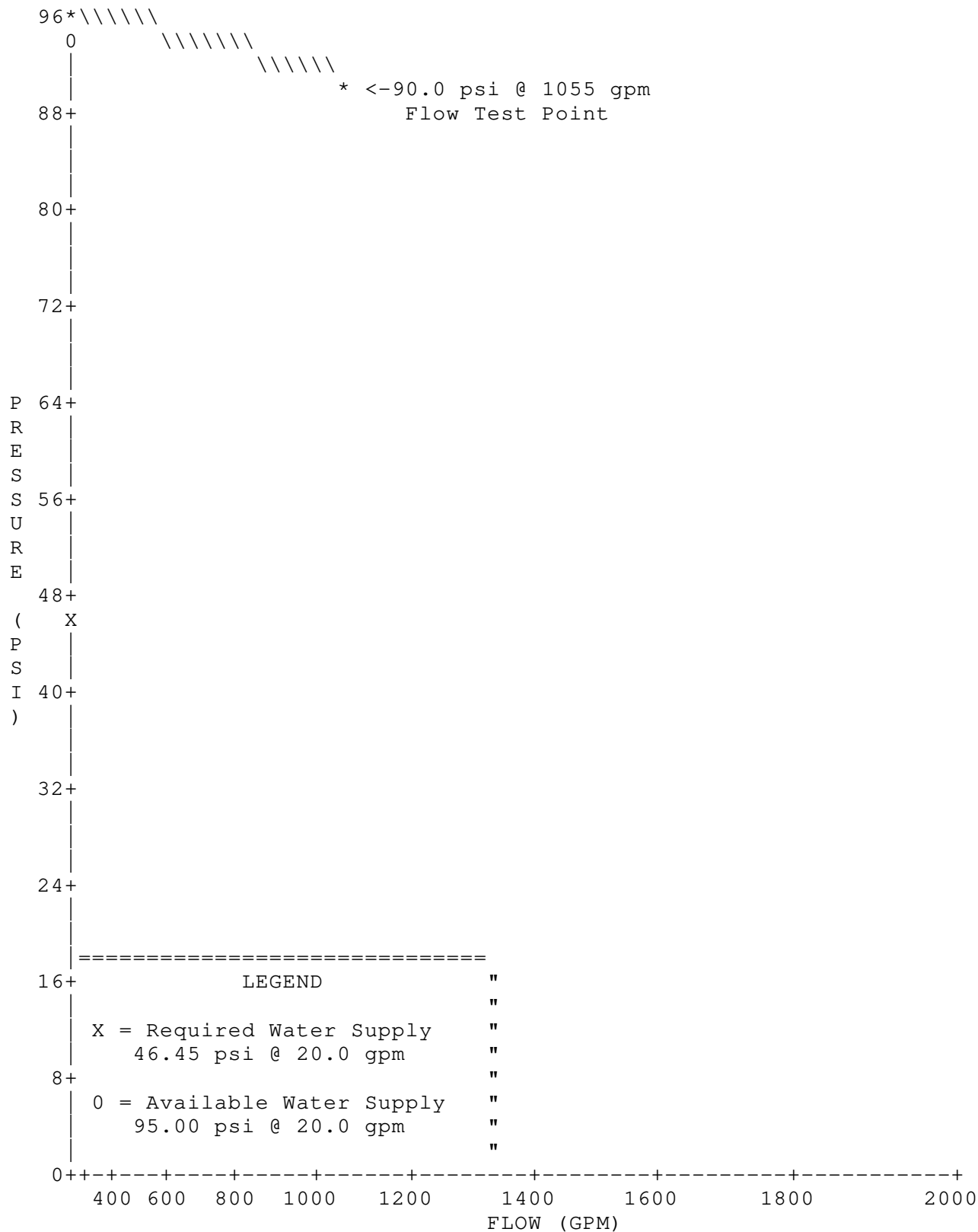


Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 12/5/2025LES\BUILDING G\AUX SYSTEMS\G - (1) 20X20 RES49 16.7PSI.SDF

JOB TITLE: G - (1) 20x20 RES49 16.7PSI

WATER SUPPLY CURVE



**SMITH FIRE SYSTEMS, INC.
JOB NO. TC25207
BRADLEY HEIGHTS: BUILDING G**

SYSTEM # 1

L3 (2) HEAD COMPARTMENT

AUXILIARY HYDRAULIC CALCULATION

DENSITY: 0.05 GPM OVER 2 HEADS

SYSTEM DEMAND AT BASE OF RISER

35.1 GPM AT 33.5 PSI

DATE: 12/5/2025FILES\BUILDING G\AUX SYSTEMS\G - (2) 18X18 RES49 12PSI.SDF

JOB TITLE: G - (2) 18x18 RES49 12PSI

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
-----------------------	---------------------------	---------------------------	--------------------	---------------------------	----------------------------	--------------------------

SOURCE	95.0	90.0	1055.0	95.0	35.1	45.9
--------	------	------	--------	------	------	------

Available pressure is 49.1 psi (52%) greater than required pressure.

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	35.1 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	35.1 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
S10	29.3	K= 4.90	12.0	17.0
S11	29.3	K= 4.90	13.6	18.1
B4	29.8	- - - -	13.0	- - -
B5	29.8	- - - -	13.7	- - -
M4	29.8	- - - -	15.8	- - -
M5	29.8	- - - -	15.9	- - -
32	32.3	- - - -	14.9	- - -
02	12.0	- - - -	24.3	- - -
TOR	14.5	- - - -	30.5	- - -
BFP1	7.6	- - - -	33.5	- - -
BFP2	7.6	- - - -	40.5	- - -
UG3	2.5	- - - -	29.6	- - -
UG4	2.5	- - - -	30.1	- - -
UG5	2.5	- - - -	32.3	- - -
UG6	2.5	- - - -	32.8	- - -
UG7	5.0	- - - -	42.4	- - -
UG8	5.0	- - - -	42.4	- - -
UG9	-3.0	- - - -	45.9	- - -
SOURCE	-3.0	SOURCE	45.9	35.1

DATE: 12/5/2025 FILES\BUILDING G\AUX SYSTEMS\G - (2) 18X18 RES49 12PSI.SDF

JOB TITLE: G - (2) 18x18 RES49 12PSI

PIPE DATA

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.	
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	(FT)	SUM.	
							FL/FT		(PSI)	
Pipe: 1										
S10		29.3	4.9	12.0	17.0	-17.0	1.101	9.17	PF	1.2
B4		29.8	0.0	13.0	0.0	5.7	150	3E	PE	-0.2
							0.050	24.17	PV	
Pipe: 2										
S11		29.3	4.9	13.6	18.1	-18.1	1.101	0.50	PF	0.3
B5		29.8	0.0	13.7	0.0	6.1	150	T	PE	-0.2
							0.056	5.50	PV	
Pipe: 3										
B4		29.8	0.0	13.0	0.0	-17.0	1.101	27.00	PF	2.9
M5		29.8	0.0	15.9	0.0	5.7	150	5ET	PE	0.0
							0.050	57.00	PV	
Pipe: 4										
B5		29.8	0.0	13.7	0.0	-18.1	1.101	12.42	PF	2.1
M4		29.8	0.0	15.8	0.0	6.1	150	4ET	PE	0.0
							0.056	37.42	PV	
Pipe: 5										
M4		29.8	0.0	15.8	0.0	-18.1	1.598	6.50	PF	0.1
32		32.3	0.0	14.9	0.0	2.9	150	T	PE	-1.1
							0.009	14.50	PV	
Pipe: 6										
M5		29.8	0.0	15.9	0.0	-17.0	1.598	2.50	PF	0.1
32		32.3	0.0	14.9	0.0	2.7	150	T	PE	-1.1
							0.008	10.50	PV	
Pipe: 7										
32		32.3	0.0	14.9	0.0	-35.0	1.598	20.25	PF	0.6
02		12.0	0.0	24.3	0.0	5.6	150	----	PE	8.8
							0.031	20.25	PV	
Pipe: 8										
02		12.0	0.0	24.3	0.0	-35.0	1.598	15.25	PF	1.2
UG3		2.5	0.0	29.6	0.0	5.6	150	2ET	PE	4.1
							0.031	37.25	PV	
Pipe: 9										
UG3		2.5	0.0	29.6	0.0	-35.0	2.003	30.33	PF	0.5
UG4		2.5	0.0	30.1	0.0	3.6	150	2E	PE	0.0
							0.010	48.33	PV	
Pipe: 10										
UG4		2.5	0.0	30.1	0.0	-35.0	1.598	55.00	PF	2.2
UG5		2.5	0.0	32.3	0.0	5.6	150	2T	PE	0.0
							0.031	71.00	PV	
Pipe: 11										
UG5		2.5	0.0	32.3	0.0	-35.0	2.003	28.08	PF	0.5
UG6		2.5	0.0	32.8	0.0	3.6	150	2E	PE	0.0
							0.010	46.08	PV	
Pipe: 12										
UG6		2.5	0.0	32.8	0.0	-35.0	1.598	44.00	PF	2.9
TOR		14.5	0.0	30.5	0.0	5.6	150	7E	PE	-5.2
							0.031	93.00	PV	
Pipe: 13										
TOR		14.5	0.0	30.5	0.0	-35.0	2.185	6.92	PF	0.0
BFP1		7.6	0.0	33.5	0.0	3.0	150	----	PE	3.0
							0.007	6.92	PV	

DATE: 12/5/2025 FILES\BUILDING G\AUX SYSTEMS\G - (2) 18X18 RES49 12PSI.SDF
JOB TITLE: G - (2) 18x18 RES49 12PSI

PIPE TAG					Q (GPM)	DIA (IN)	LENGTH	PRESS.	
END	ELEV.	NOZ.	PT	DISC.	VEL (FPS)	HW (C)	(FT)	SUM.	
NODES	(FT)	(K)	(PSI)	(GPM)		FL/FT		(PSI)	
Pipe: 14									
BFP2	7.6	0.0	40.5	0.0					
BFP1	7.6	0.0	33.5	0.0					
FIXED PRESSURE LOSS DEVICE									
						7.0 psi,	35.0 gpm		
Pipe: 15									
BFP2	7.6	0.0	40.5	0.0	-35.0	2.003	PL	50.50	PF 0.8
UG7	5.0	0.0	42.4	0.0	3.6	150	FTG	ET2G	PE 1.1
						0.010	TL	73.50	PV
Pipe: 16									
UG7	5.0	0.0	42.4	0.0	-35.0	8.270	PL	120.00	PF 0.0
UG8	5.0	0.0	42.4	0.0	0.2	140	FTG	2ETG	PE 0.0
						0.000	TL	209.00	PV
Pipe: 17									
UG8	5.0	0.0	42.4	0.0	-35.0	12.340	PL	19.25	PF 0.0
UG9	-3.0	0.0	45.9	0.0	0.1	140	FTG	TFG	PE 3.5
						0.000	TL	126.25	PV
Pipe: 18									
UG9	-3.0	0.0	45.9	0.0	-35.1	6.160	PL	15.50	PF 0.0
SOURCE	-3.0	SRCE	45.9	(N/A)	0.4	140	FTG	EG	PE 0.0
						0.000	TL	31.50	PV

NOTES (HASS):

- Calculations were performed by the HASS computer program in accordance with NFPA (2020) under license no. 64621553 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760
- The system has been calculated to provide an average imbalance at each node of 0.008 gpm and a maximum imbalance at any node of 0.152 gpm.
- Total pressure at each node is used in balancing the system. Maximum water velocity is 6.1 ft/sec at pipe 4.
- Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.
- Available pressure at source node SOURCE under full flow conditions is 94.97 psi with a flow of 61.65 gpm.

DATE: 12/5/2025\FILES\BUILDING G\AUX SYSTEMS\G - (2) 18X18 RES49 12PSI.SDF

JOB TITLE: G - (2) 18x18 RES49 12PSI

(6) PIPE FITTINGS TABLE

User Pipe Table Name: SMITH

PAGE: D MATERIAL: DI HWC: 140

Diameter (in)	Equivalent Fitting Lengths in Feet					
	E	T	F	C	B	G
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv
6.160	12.00	40.00	10.00	43.00	16.00	4.00
8.270	18.00	47.00	12.00	60.00	20.00	6.00
12.340	24.00	80.00	19.00	87.00	34.00	8.00

PAGE: P MATERIAL: CPVC HWC: 150

Diameter (in)	Equivalent Fitting Lengths in Feet						
	E	T	F	R	C	G	B
	Ell	Tee	45	teeRun	Coup	Gva	Bfy
1.101	5.00	5.00	1.00	1.00	1.00	1.00	4.00
1.598	7.00	8.00	2.00	1.00	1.00	1.00	6.00
2.003	9.00	10.00	2.00	1.00	1.00	2.00	7.00

PAGE: Y MATERIAL: SCH7 HWC: 120

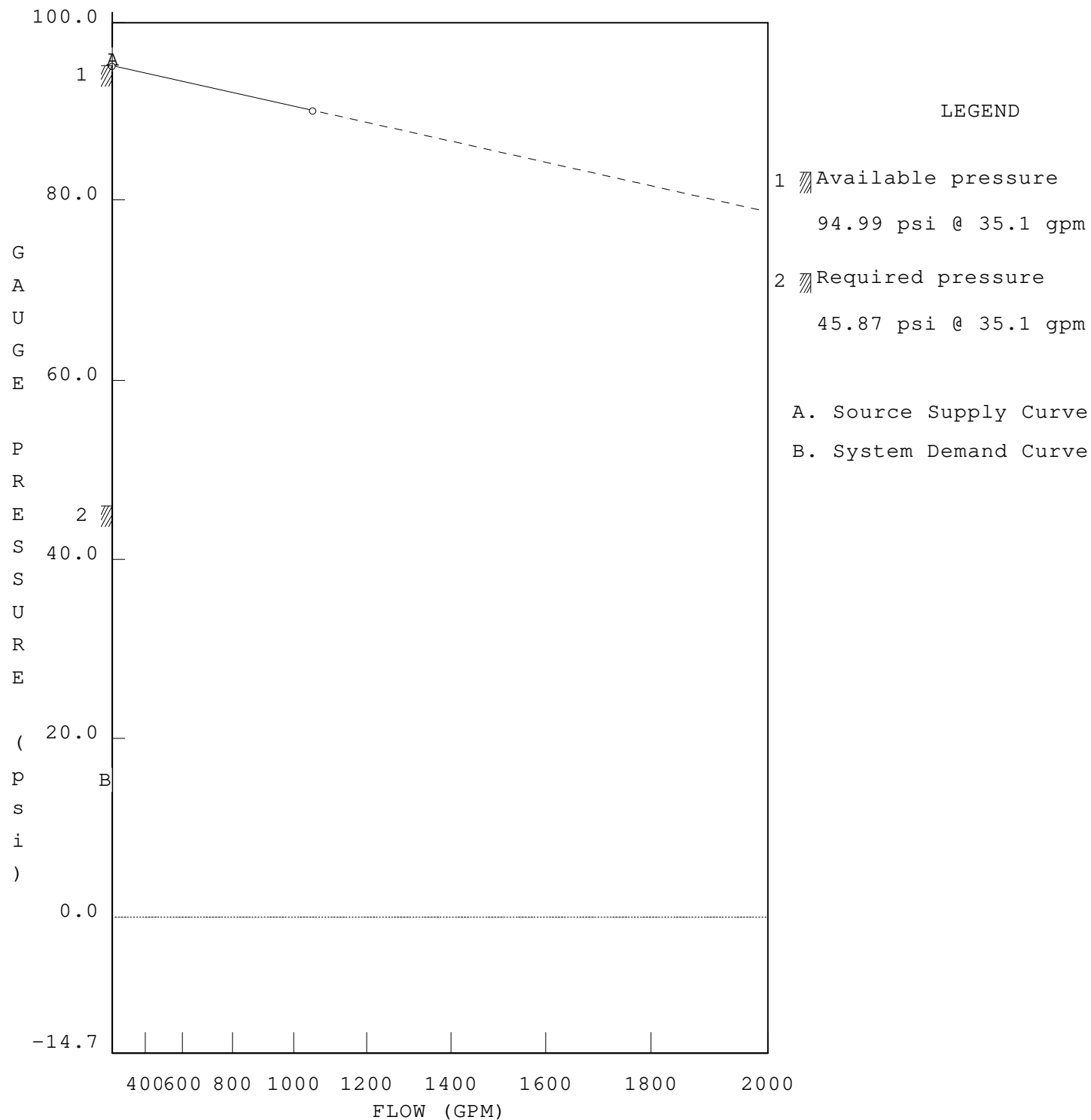
Diameter (in)	Equivalent Fitting Lengths in Feet								
	E	T	F	C	B	G	A	D	X
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv	AlmChk	DPVlv	flex
2.185	4.60	15.20	2.40	14.40	6.20	1.00	12.40	12.40	0.00

DATE: 12/5/2025FILES\BUILDING G\AUX SYSTEMS\G - (2) 18X18 RES49 12PSI.SDF

JOB TITLE: G - (2) 18x18 RES49 12PSI

WATER SUPPLY ANALYSIS

Static: 95.00 psi Resid: 90.00 psi Flow: 1055.0 gpm

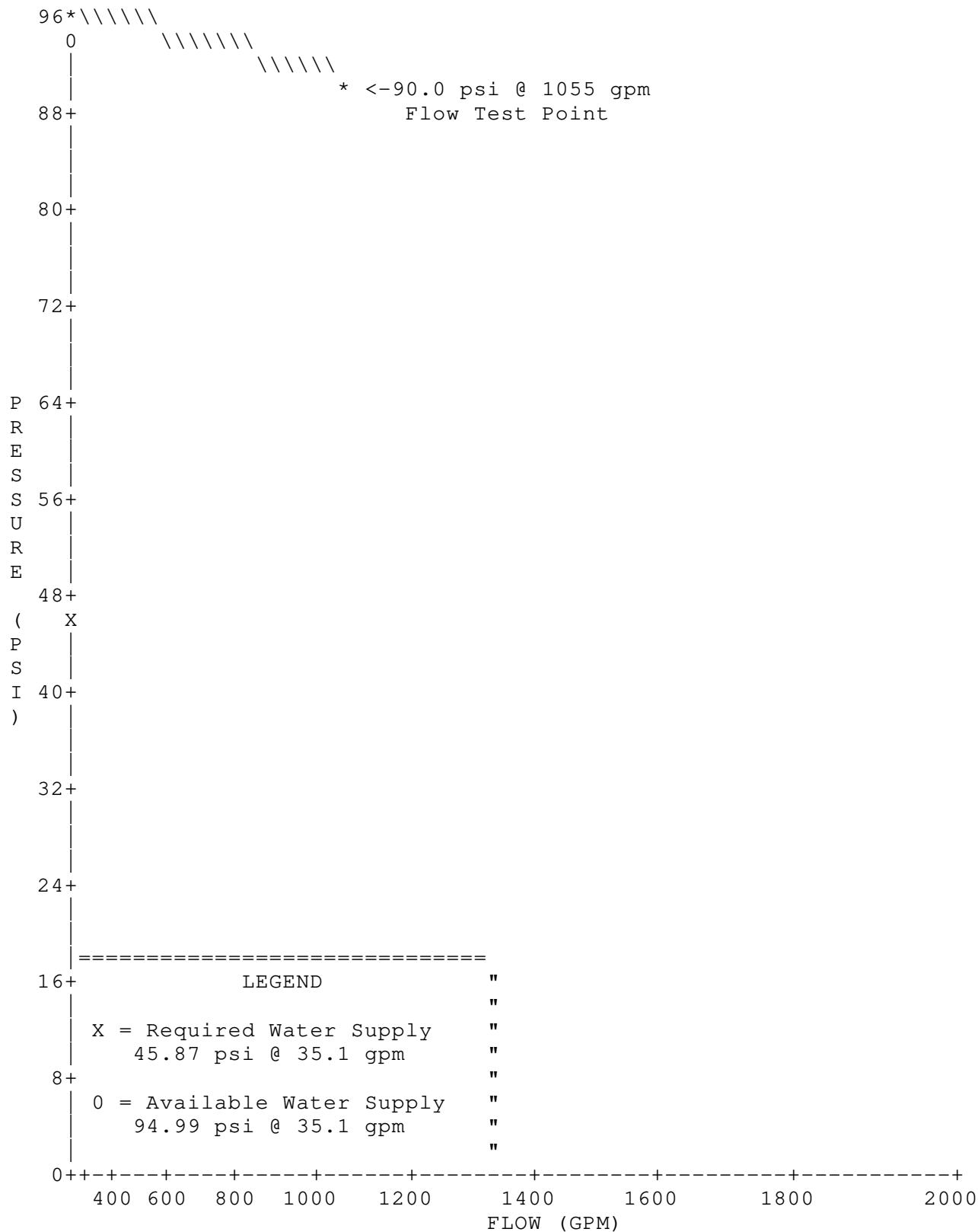


Note: (1) Dashed Lines indicate extrapolated values from Test Results

DATE: 12/5/2025FILES\BUILDING G\AUX SYSTEMS\G - (2) 18X18 RES49 12PSI.SDF

JOB TITLE: G - (2) 18x18 RES49 12PSI

WATER SUPPLY CURVE



SMITH FIRE SYSTEMS, INC.
JOB NO. TC25207
BRADLEY HEIGHTS: BUILDING G

SYSTEM # 1

L3 (4) DRY HSW

AUXILIARY HYDRAULIC CALCULATION

DENSITY: 0.1 GPM OVER 4 HEADS

SYSTEM DEMAND AT BASE OF RISER

64.2 GPM AT 49.1 PSI

DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF
 JOB TITLE: G - (4) F3QR 7PSI

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
SOURCE	95.0	90.0	1055.0	95.0	64.2	60.8

Available pressure is 34.2 psi (36%) greater than required pressure.

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	64.2 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	64.2 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
S6	29.3	K= 5.60	8.6	16.4
S7	29.3	K= 5.60	8.1	15.9
S8	29.3	K= 5.60	7.0	14.8
S9	29.3	K= 5.60	9.2	17.0
B3	29.8	- - - -	9.8	- - -
B4	29.8	- - - -	8.8	- - -
M3	29.8	- - - -	9.8	- - -
M4	29.8	- - - -	10.9	- - -
M5	29.8	- - - -	11.0	- - -
31	29.8	- - - -	10.2	- - -
32	32.3	- - - -	10.0	- - -
01	9.5	- - - -	19.5	- - -
02	12.0	- - - -	19.3	- - -
TOR	14.5	- - - -	45.9	- - -
BFP1	7.6	- - - -	49.1	- - -
BFP2	7.6	- - - -	56.1	- - -
UG1	0.0	- - - -	24.8	- - -
UG2	0.0	- - - -	25.2	- - -
UG3	2.5	- - - -	30.9	- - -
UG4	2.5	- - - -	32.5	- - -
UG5	2.5	- - - -	39.3	- - -
UG6	2.5	- - - -	40.7	- - -
UG7	5.0	- - - -	57.3	- - -
UG8	5.0	- - - -	57.3	- - -
UG9	-3.0	- - - -	60.8	- - -
SOURCE	-3.0	SOURCE	60.8	64.2

DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF
 JOB TITLE: G - (4) F3QR 7PSI

PIPE DATA

PIPE TAG		ELEV. (FT)	NOZ. (K)	PT (PSI)	DISC. (GPM)	Q (GPM)	DIA (IN)		LENGTH (FT)	PRESS.	
END	NODES					VEL (FPS)	HW (C)	FL/FT		SUM.	
										(PSI)	
Pipe: 1											
S6		29.3	5.6	8.6	16.4	-16.4 5.5	1.101	PL	15.00	PF	1.4
M3		29.8	0.0	9.8	0.0		150	FTG	E2T	PE	-0.2
							0.047	TL	30.00	PV	
Pipe: 2											
S7		29.3	5.6	8.1	15.9	-15.9 5.4	1.101	PL	8.50	PF	1.9
M3		29.8	0.0	9.8	0.0		150	FTG	5E2T	PE	-0.2
							0.045	TL	43.50	PV	
Pipe: 3											
S8		29.3	5.6	7.0	14.8	-14.8 5.0	1.101	PL	21.00	PF	2.0
B4		29.8	0.0	8.8	0.0		150	FTG	4E2T	PE	-0.2
							0.039	TL	51.00	PV	
Pipe: 4											
S9		29.3	5.6	9.2	17.0	-17.0 5.7	1.101	PL	6.00	PF	0.8
B3		29.8	0.0	9.8	0.0		150	FTG	ET	PE	-0.2
							0.050	TL	16.00	PV	
Pipe: 5											
B3		29.8	0.0	9.8	0.0	-17.0 5.7	1.101	PL	17.50	PF	1.1
M4		29.8	0.0	10.9	0.0		150	FTG	T	PE	0.0
							0.050	TL	22.50	PV	
Pipe: 6											
B4		29.8	0.0	8.8	0.0	-14.8 5.0	1.101	PL	27.00	PF	2.2
M5		29.8	0.0	11.0	0.0		150	FTG	5ET	PE	0.0
							0.039	TL	57.00	PV	
Pipe: 7											
M5		29.8	0.0	11.0	0.0	-14.8 2.4	1.598	PL	2.50	PF	0.1
32		32.3	0.0	10.0	0.0		150	FTG	T	PE	-1.1
							0.006	TL	10.50	PV	
Pipe: 8											
M4		29.8	0.0	10.9	0.0	-17.0 2.7	1.598	PL	6.50	PF	0.1
32		32.3	0.0	10.0	0.0		150	FTG	T	PE	-1.1
							0.008	TL	14.50	PV	
Pipe: 9											
M3		29.8	0.0	9.8	0.0	-32.4 5.2	1.598	PL	5.25	PF	0.4
31		29.8	0.0	10.2	0.0		150	FTG	T	PE	0.0
							0.027	TL	13.25	PV	
Pipe: 10											
31		29.8	0.0	10.2	0.0	-32.4 5.2	1.598	PL	20.25	PF	0.5
01		9.5	0.0	19.5	0.0		150	FTG	----	PE	8.8
							0.027	TL	20.25	PV	
Pipe: 11											
32		32.3	0.0	10.0	0.0	-31.8 5.1	1.598	PL	20.25	PF	0.5
02		12.0	0.0	19.3	0.0		150	FTG	----	PE	8.8
							0.026	TL	20.25	PV	
Pipe: 12											
01		9.5	0.0	19.5	0.0	-32.4 5.2	1.598	PL	15.00	PF	1.2
UG1		0.0	0.0	24.8	0.0		150	FTG	2E2T	PE	4.1
							0.027	TL	45.00	PV	
Pipe: 13											
02		12.0	0.0	19.3	0.0	-31.8 5.1	1.598	PL	12.00	PF	0.7
UG2		0.0	0.0	25.2	0.0		150	FTG	2T	PE	5.2
							0.026	TL	28.00	PV	

DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF
 JOB TITLE: G - (4) F3QR 7PSI

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q (GPM)	DIA (IN)	LENGTH	PRESS.		
	NODES	(FT)	(K)	(PSI)	(GPM)	VEL (FPS)	HW (C)	(FT)	SUM.		
							FL/FT		(PSI)		
Pipe: 14						-32.4	2.003	PL	25.08	PF	0.4
UG1		0.0	0.0	24.8	0.0	3.3	150	FTG	2E	PE	0.0
UG2		0.0	0.0	25.2	0.0		0.009	TL	43.08	PV	
Pipe: 15						-64.2	1.598	PL	55.00	PF	6.8
UG2		0.0	0.0	25.2	0.0	10.3	150	FTG	2T	PE	-1.1
UG3		2.5	0.0	30.9	0.0		0.096	TL	71.00	PV	
Pipe: 16						-64.2	2.003	PL	30.33	PF	1.5
UG3		2.5	0.0	30.9	0.0	6.5	150	FTG	2E	PE	0.0
UG4		2.5	0.0	32.5	0.0		0.032	TL	48.33	PV	
Pipe: 17						-64.2	1.598	PL	55.00	PF	6.8
UG4		2.5	0.0	32.5	0.0	10.3	150	FTG	2T	PE	0.0
UG5		2.5	0.0	39.3	0.0		0.096	TL	71.00	PV	
Pipe: 18						-64.2	2.003	PL	25.08	PF	1.4
UG5		2.5	0.0	39.3	0.0	6.5	150	FTG	2E	PE	0.0
UG6		2.5	0.0	40.7	0.0		0.032	TL	43.08	PV	
Pipe: 19						-64.2	1.598	PL	44.00	PF	10.5
UG6		2.5	0.0	40.7	0.0	10.3	150	FTG	7E2T	PE	-5.2
TOR		14.5	0.0	45.9	0.0		0.096	TL	109.00	PV	
Pipe: 20						-64.2	2.185	PL	6.92	PF	0.1
TOR		14.5	0.0	45.9	0.0	5.5	150	FTG	----	PE	3.0
BFP1		7.6	0.0	49.1	0.0		0.021	TL	6.92	PV	
Pipe: 21						FIXED PRESSURE LOSS DEVICE					
BFP2		7.6	0.0	56.1	0.0	7.0 psi, 64.2 gpm					
BFP1		7.6	0.0	49.1	0.0						
Pipe: 22						-64.2	4.100	PL	50.50	PF	0.1
BFP2		7.6	0.0	56.1	0.0	1.6	140	FTG	ET2G	PE	1.1
UG7		5.0	0.0	57.3	0.0		0.001	TL	91.50	PV	
Pipe: 23						-64.2	8.270	PL	120.00	PF	0.0
UG7		5.0	0.0	57.3	0.0	0.4	140	FTG	2ETG	PE	0.0
UG8		5.0	0.0	57.3	0.0		0.000	TL	209.00	PV	
Pipe: 24						-64.2	12.340	PL	19.25	PF	0.0
UG8		5.0	0.0	57.3	0.0	0.2	140	FTG	TFG	PE	3.5
UG9		-3.0	0.0	60.8	0.0		0.000	TL	126.25	PV	
Pipe: 25						-64.2	6.160	PL	15.50	PF	0.0
UG9		-3.0	0.0	60.8	0.0	0.7	140	FTG	EG	PE	0.0
SOURCE		-3.0	SRCE	60.8	(N/A)		0.000	TL	31.50	PV	

DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF

JOB TITLE: G - (4) F3QR 7PSI

NOTES (HASS):

- (1) Calculations were performed by the HASS computer program in accordance with NFPA (2020) under license no. 64621553 granted by
HRS Systems, Inc.
208 Southside Square
Petersburg, TN 37144
(931) 659-9760
- (2) The system has been calculated to provide an average imbalance at each node of 0.007 gpm and a maximum imbalance at any node of 0.178 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 10.3 ft/sec at pipe 15.
- (4) Items listed in bold print on the cover sheet

are automatically transferred from the calculation report.
- (5) Available pressure at source node SOURCE under full flow conditions is 94.95 psi with a flow of 89.26 gpm.

(6) PIPE FITTINGS TABLE

User Pipe Table Name: SMITH

PAGE: D	MATERIAL: DI		HWC: 140			
Diameter	Equivalent Fitting Lengths in Feet					
(in)	E	T	F	C	B	G
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv
4.100	8.00	27.00	6.00	30.00	20.00	3.00
6.160	12.00	40.00	10.00	43.00	16.00	4.00
8.270	18.00	47.00	12.00	60.00	20.00	6.00
12.340	24.00	80.00	19.00	87.00	34.00	8.00

PAGE: P	MATERIAL: CPVC		HWC: 150				
Diameter	Equivalent Fitting Lengths in Feet						
(in)	E	T	F	R	C	G	B
	Ell	Tee	45	teeRun	Coup	Gva	Bfy
1.101	5.00	5.00	1.00	1.00	1.00	1.00	4.00
1.598	7.00	8.00	2.00	1.00	1.00	1.00	6.00
2.003	9.00	10.00	2.00	1.00	1.00	2.00	7.00

DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF

JOB TITLE: G - (4) F3QR 7PSI

PAGE: Y MATERIAL: SCH7 HWC: 120

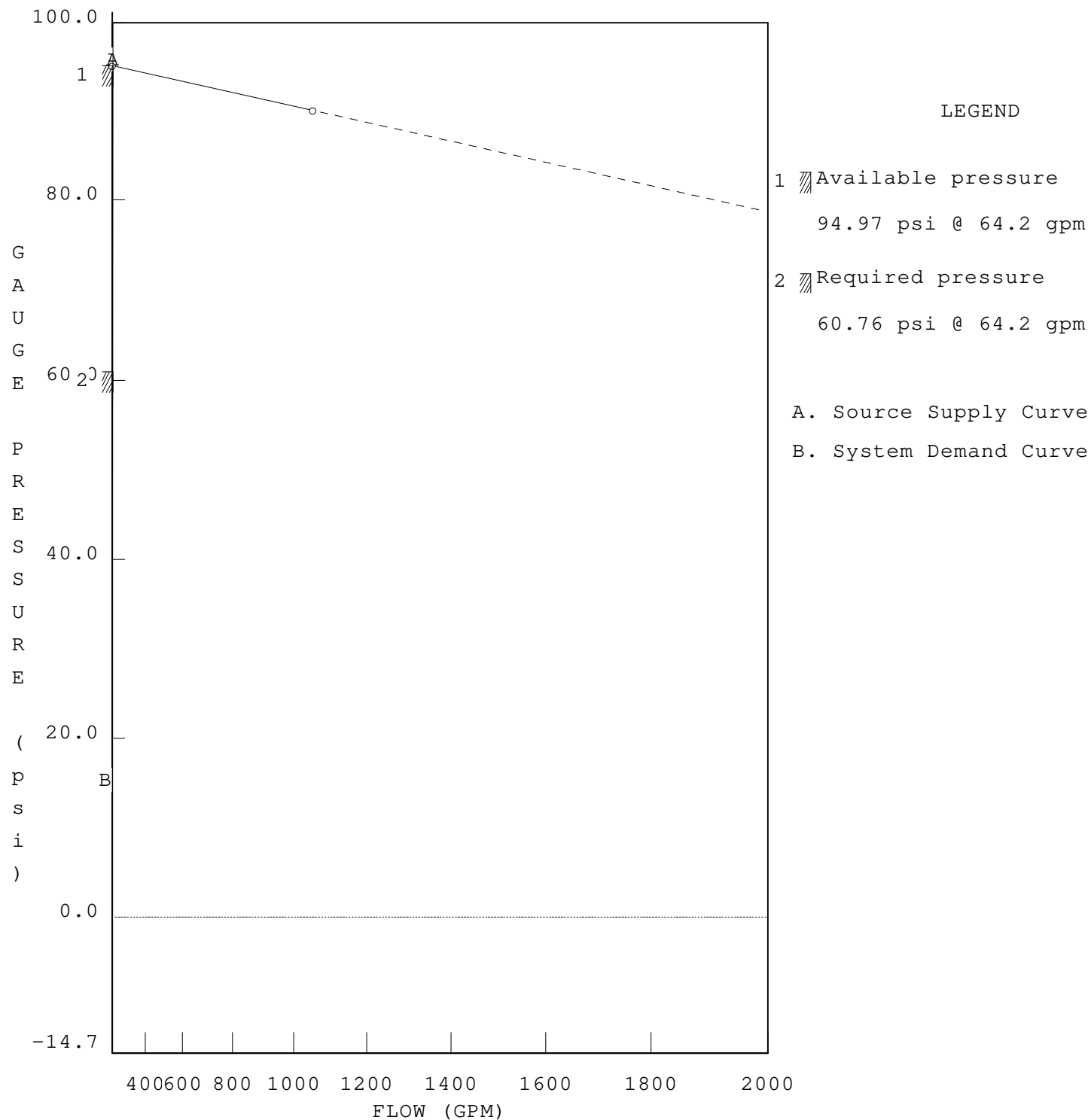
Diameter (in)	Equivalent Fitting Lengths in Feet								
	E	T	F	C	B	G	A	D	X
	Ell	Tee	45	ChkVlv	BfyVlv	GatVlv	AlmChk	DPVlv	flex
2.185	4.60	15.20	2.40	14.40	6.20	1.00	12.40	12.40	0.00

DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF

JOB TITLE: G - (4) F3QR 7PSI

WATER SUPPLY ANALYSIS

Static: 95.00 psi Resid: 90.00 psi Flow: 1055.0 gpm



DATE: 12/5/2025CS\HASS FILES\BUILDING G\AUX SYSTEMS\G - (4) F3QR 7PSI.SDF

JOB TITLE: G - (4) F3QR 7PSI

WATER SUPPLY CURVE

