

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 8/23/2025EP INDIA\DLYFT INDIA\WORKING\DLYFT INDIA LLP HYDR CAL
 JOB TITLE: DKYFT India LLP

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
SRC	(N/A)	1.0	(N/A)	1.0	585.6	0.0

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	585.6 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	250.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	335.6 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
S1	19.0	K= 5.60	12.1	19.5
S2	19.0	K= 5.60	13.6	20.6
S3	19.0	K= 5.60	19.0	24.4
4	19.0	- - - -	22.5	- - -
S4	19.0	K= 5.60	20.4	25.3
S5	19.0	K= 5.60	18.3	23.9
S6	19.0	K= 5.60	12.8	20.0
S7	19.0	K= 5.60	14.3	21.1
S8	19.0	K= 5.60	19.9	25.0
10	19.0	- - - -	23.6	- - -
S9	19.0	K= 5.60	21.4	25.9
S10	19.0	K= 5.60	19.2	24.5
S11	19.0	K= 5.60	20.9	25.6
S12	19.0	K= 5.60	23.3	27.0
15	19.0	- - - -	25.7	- - -
S13	19.0	K= 5.60	23.3	27.0
S14	19.0	K= 5.60	20.9	25.6
18	18.0	- - - -	24.2	- - -
19	18.0	- - - -	25.4	- - -
20	18.0	- - - -	27.3	- - -
21	18.0	- - - -	31.0	- - -
22	18.0	- - - -	32.3	- - -
23	18.0	- - - -	33.6	- - -
24	18.0	- - - -	34.9	- - -
25	18.0	- - - -	35.2	- - -
26	18.0	- - - -	35.6	- - -
27	18.0	- - - -	35.9	- - -
28	18.0	- - - -	36.2	- - -
29	18.0	- - - -	36.6	- - -
30	18.0	- - - -	36.9	- - -
31	18.0	- - - -	37.3	- - -
32	18.0	- - - -	37.6	- - -
33	18.0	- - - -	38.0	- - -
34	18.0	- - - -	38.3	- - -
35	18.0	- - - -	38.8	- - -
36	18.0	- - - -	40.2	- - -

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NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
37	9.0	- - - -	44.4	- - -
38	9.0	- - - -	45.7	- - -
39	9.0	- - - -	46.6	- - -
40	0.0	- - - -	50.6	- - -
41	0.0	- - - -	50.8	- - -
42	0.0	- - - -	50.9	- - -
43	-6.5	- - - -	53.8	- - -
44	-6.5	- - - -	54.0	- - -
PUMP-OUT	-6.5	- - - -	54.0	- - -
PUMP-IN	-6.5	- - - -	0.8	- - -
45	-6.5	- - - -	0.8	- - -
SRC	-4.5	SOURCE	0.0	335.6

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

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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)	
S1 S2	Pipe: 1				-19.5	1.049	PL	11.53	PF	1	
	19.0	5.6	12.1	19.5	7.2	120	FTG	----	PE	0	
	19.0	5.6	13.6	20.6		0.124	TL	11.53	PV		
S2 S3	Pipe: 2				-40.1	1.049	PL	11.53	PF	5	
	19.0	5.6	13.6	20.6	14.9	120	FTG	----	PE	0	
	19.0	5.6	19.0	24.4		0.471	TL	11.53	PV		
S3 4	Pipe: 3				-64.5	1.380	PL	5.76	PF	3	
	19.0	5.6	19.0	24.4	13.8	120	FTG	T	PE	0	
	19.0	0.0	22.5	0.0		0.299	TL	11.76	PV		
4 S4	Pipe: 4				49.2	1.380	PL	5.76	PF	2	
	19.0	0.0	22.5	0.0	10.6	120	FTG	T	PE	0	
	19.0	5.6	20.4	25.3		0.181	TL	11.76	PV		
S4 S5	Pipe: 5				23.9	1.049	PL	11.53	PF	2	
	19.0	5.6	20.4	25.3	8.9	120	FTG	----	PE	0	
	19.0	5.6	18.3	23.9		0.181	TL	11.53	PV		
S6 S7	Pipe: 6				-20.0	1.049	PL	11.53	PF	1	
	19.0	5.6	12.8	20.0	7.4	120	FTG	----	PE	0	
	19.0	5.6	14.3	21.1		0.130	TL	11.53	PV		
S7 S8	Pipe: 7				-41.1	1.049	PL	11.53	PF	5	
	19.0	5.6	14.3	21.1	15.3	120	FTG	----	PE	0	
	19.0	5.6	19.9	25.0		0.494	TL	11.53	PV		
S8 10	Pipe: 8				-66.2	1.380	PL	5.76	PF	3	
	19.0	5.6	19.9	25.0	14.2	120	FTG	T	PE	0	
	19.0	0.0	23.6	0.0		0.313	TL	11.76	PV		
10 S9	Pipe: 9				50.4	1.380	PL	5.76	PF	2	
	19.0	0.0	23.6	0.0	10.8	120	FTG	T	PE	0	
	19.0	5.6	21.4	25.9		0.190	TL	11.76	PV		
S9 S10	Pipe: 10				24.5	1.049	PL	11.53	PF	2	
	19.0	5.6	21.4	25.9	9.1	120	FTG	----	PE	0	
	19.0	5.6	19.2	24.5		0.190	TL	11.53	PV		
S11 S12	Pipe: 11				-25.6	1.049	PL	11.53	PF	2	
	19.0	5.6	20.9	25.6	9.5	120	FTG	----	PE	0	
	19.0	5.6	23.3	27.0		0.206	TL	11.53	PV		
S12 15	Pipe: 12				-52.7	1.380	PL	5.76	PF	2	
	19.0	5.6	23.3	27.0	11.3	120	FTG	T	PE	0	
	19.0	0.0	25.7	0.0		0.205	TL	11.76	PV		
15 S13	Pipe: 13				52.7	1.380	PL	5.76	PF	2	
	19.0	0.0	25.7	0.0	11.3	120	FTG	T	PE	0	
	19.0	5.6	23.3	27.0		0.205	TL	11.76	PV		

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PIPE TAG		ELEV. (FT)	NOZ. (K)	PT (PSI)	DISC. (GPM)	Q (GPM)	DIA (IN)		LENGTH (FT)	PRESS	
END	NODES					VEL (FPS)	HW (C)			SUM.	
							FL/FT			(PSI)	
S13 S14	Pipe: 14					25.6	1.049	PL	11.53	PF	2
		19.0	5.6	23.3	27.0	9.5	120	FTG	----	PE	0
		19.0	5.6	20.9	25.6		0.206	TL	11.53	PV	
4 18	Pipe: 15					-113.7	2.067	PL	1.00	PF	1
		19.0	0.0	22.5	0.0	10.9	120	FTG	T	PE	0
		18.0	0.0	24.2	0.0		0.119	TL	11.00	PV	
18 19	Pipe: 16					-113.7	2.067	PL	10.00	PF	1
		18.0	0.0	24.2	0.0	10.9	120	FTG	----	PE	0
		18.0	0.0	25.4	0.0		0.119	TL	10.00	PV	
10 19	Pipe: 17					-116.6	2.067	PL	1.00	PF	1
		19.0	0.0	23.6	0.0	11.1	120	FTG	T	PE	0
		18.0	0.0	25.4	0.0		0.125	TL	11.00	PV	
19 20	Pipe: 18					-230.3	2.469	PL	10.00	PF	1
		18.0	0.0	25.4	0.0	15.4	120	FTG	----	PE	0
		18.0	0.0	27.3	0.0		0.185	TL	10.00	PV	
15 20	Pipe: 19					-105.3	2.067	PL	1.00	PF	1
		19.0	0.0	25.7	0.0	10.1	120	FTG	T	PE	0
		18.0	0.0	27.3	0.0		0.103	TL	11.00	PV	
20 21	Pipe: 20					-335.6	2.469	PL	10.00	PF	3
		18.0	0.0	27.3	0.0	22.5	120	FTG	----	PE	0
		18.0	0.0	31.0	0.0		0.371	TL	10.00	PV	
21 22	Pipe: 21					-335.6	3.068	PL	10.00	PF	1
		18.0	0.0	31.0	0.0	14.6	120	FTG	----	PE	0
		18.0	0.0	32.3	0.0		0.129	TL	10.00	PV	
22 23	Pipe: 22					-335.6	3.068	PL	10.00	PF	1
		18.0	0.0	32.3	0.0	14.6	120	FTG	----	PE	0
		18.0	0.0	33.6	0.0		0.129	TL	10.00	PV	
23 24	Pipe: 23					-335.6	3.068	PL	10.00	PF	1
		18.0	0.0	33.6	0.0	14.6	120	FTG	----	PE	0
		18.0	0.0	34.9	0.0		0.129	TL	10.00	PV	
24 25	Pipe: 24					-335.6	4.026	PL	10.00	PF	0
		18.0	0.0	34.9	0.0	8.5	120	FTG	----	PE	0
		18.0	0.0	35.2	0.0		0.034	TL	10.00	PV	
25 26	Pipe: 25					-335.6	4.026	PL	10.00	PF	0
		18.0	0.0	35.2	0.0	8.5	120	FTG	----	PE	0
		18.0	0.0	35.6	0.0		0.034	TL	10.00	PV	
26 27	Pipe: 26					-335.6	4.026	PL	10.00	PF	0
		18.0	0.0	35.6	0.0	8.5	120	FTG	----	PE	0
		18.0	0.0	35.9	0.0		0.034	TL	10.00	PV	

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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: 27											
27		18.0	0.0	35.9	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
28		18.0	0.0	36.2	0.0		0.034	TL	10.00	PV	
Pipe: 28											
28		18.0	0.0	36.2	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
29		18.0	0.0	36.6	0.0		0.034	TL	10.00	PV	
Pipe: 29											
29		18.0	0.0	36.6	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
30		18.0	0.0	36.9	0.0		0.034	TL	10.00	PV	
Pipe: 30											
30		18.0	0.0	36.9	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
31		18.0	0.0	37.3	0.0		0.034	TL	10.00	PV	
Pipe: 31											
31		18.0	0.0	37.3	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
32		18.0	0.0	37.6	0.0		0.034	TL	10.00	PV	
Pipe: 32											
32		18.0	0.0	37.6	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
33		18.0	0.0	38.0	0.0		0.034	TL	10.00	PV	
Pipe: 33											
33		18.0	0.0	38.0	0.0	-335.6 8.5	4.026 120	PL FTG	10.00 ----	PF PE	0 0
34		18.0	0.0	38.3	0.0		0.034	TL	10.00	PV	
Pipe: 34											
34		18.0	0.0	38.3	0.0	-335.6 8.5	4.026 120	PL FTG	3.23 E	PF PE	0 0
35		18.0	0.0	38.8	0.0		0.034	TL	13.23	PV	
Pipe: 35											
35		18.0	0.0	38.8	0.0	-335.6 8.5	4.026 120	PL FTG	33.13 E	PF PE	1 0
36		18.0	0.0	40.2	0.0		0.034	TL	43.13	PV	
Pipe: 36											
36		18.0	0.0	40.2	0.0	-335.6 3.7	6.065 120	PL FTG	9.00 EA	PF PE	0 3
37		9.0	0.0	44.4	0.0		0.005	TL	51.00	PV	
Pipe: 37											
37		9.0	0.0	44.4	0.0	-335.6 3.7	6.065 120	PL FTG	242.00 3E	PF PE	1 0
38		9.0	0.0	45.7	0.0		0.005	TL	284.00	PV	
Pipe: 38											
38		9.0	0.0	45.7	0.0	-335.6 3.7	6.065 120	PL FTG	185.00 E	PF PE	0 0
39		9.0	0.0	46.6	0.0		0.005	TL	199.00	PV	
Pipe: 39											
39		9.0	0.0	46.6	0.0	-335.6 3.7	6.065 120	PL FTG	9.00 E	PF PE	0 3
40		0.0	0.0	50.6	0.0		0.005	TL	23.00	PV	

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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: 40						-335.6	6.065 PL	11.00	PF	0
40		0.0	0.0	50.6	0.0	3.7	120 FTG	E	PE	0
41		0.0	0.0	50.8	0.0		0.005 TL	25.00	PV	
Pipe: 41						-335.6	6.065 PL	3.00	PF	0
41		0.0	0.0	50.8	0.0	3.7	120 FTG	TG	PE	0
42		0.0	0.0	50.9	0.0		0.005 TL	36.00	PV	
Pipe: 42						-335.6	6.065 PL	6.50	PF	0
42		0.0	0.0	50.9	0.0	3.7	120 FTG	E	PE	2
43		-6.5	0.0	53.8	0.0		0.005 TL	20.50	PV	
Pipe: 43						335.6	6.065 PL	4.00	PF	0
44		-6.5	0.0	54.0	0.0	3.7	120 FTG	CG	PE	0
43		-6.5	0.0	53.8	0.0		0.005 TL	39.00	PV	
Pipe: 44						-335.6	6.065 PL	1.00	PF	0
44		-6.5	0.0	54.0	0.0	3.7	120 FTG	----	PE	0
PUMP-OUT		-6.5	0.0	54.0	0.0		0.005 TL	1.00	PV	
Pipe: 45					FIRE PUMP		Rating:	500.0 gpm @ 124.0		
PUMP-IN		-6.5	0.0	0.8	0.0		Avail.:	335.7 gpm @ 124.0		
PUMP-OUT		-6.5	0.0	54.0	0.0		Req'd.:	335.7 gpm @ 53.2		
Pipe: 46						-335.6	6.065 PL	5.00	PF	0
PUMP-IN		-6.5	0.0	0.8	0.0	3.7	120 FTG	G	PE	0
45		-6.5	0.0	0.8	0.0		0.005 TL	8.00	PV	
Pipe: 47						-335.6	6.065 PL	4.00	PF	0
45		-6.5	0.0	0.8	0.0	3.7	120 FTG	G	PE	-0
SRC		-4.5	SRCE	0.0	(N/A)		0.005 TL	7.00	PV	

NOTES (HASS):

- Calculations were performed by the HASS computer program in accordance with NFPA (2020) under license no. 66309840 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 0.001 gpm and a maximum imbalance at any node of 0.018 gpm.
- Total pressure at each node is used in balancing the system. Maximum water velocity is 22.5 ft/sec at pipe 20.
- The Minimum pump suction pressure under maximum calculated dema
- Items listed in bold print on the cover sheet

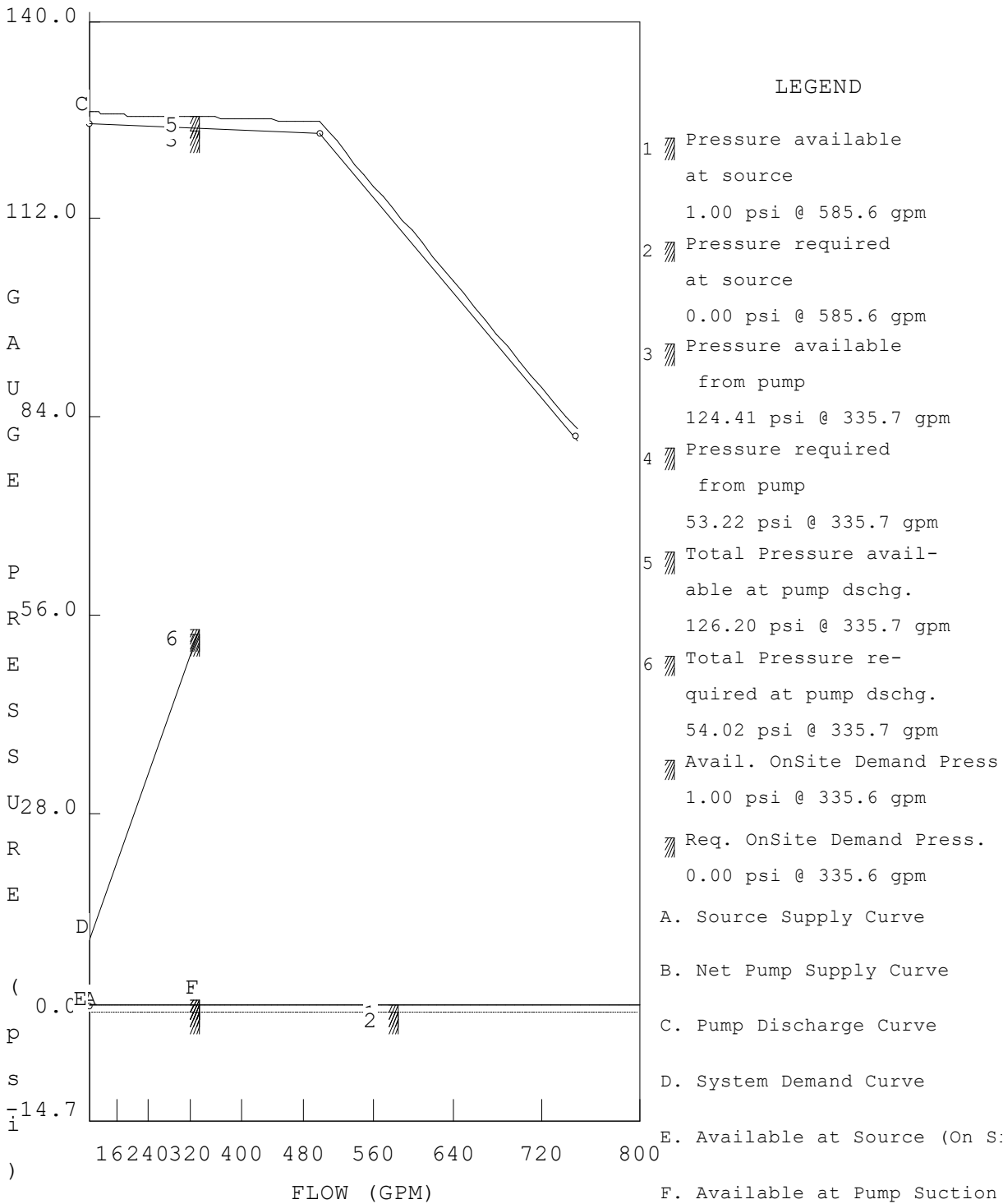
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(6) Available pressure at source node SRC under full flow condition
1.00 psi with a flow of 793.32 gpm.

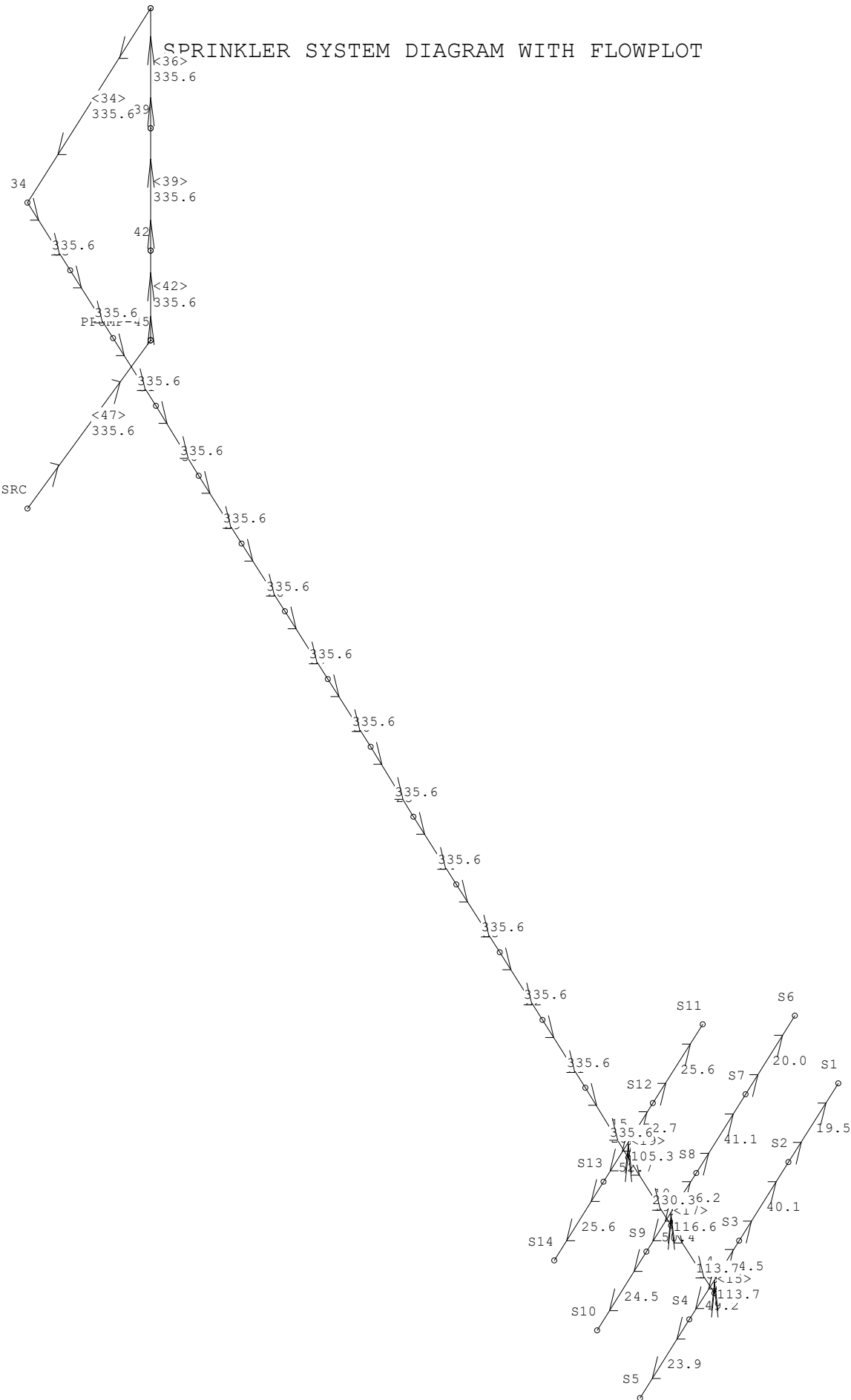
(in)	E Ell	T Tee	L LngEll	C ChkVlv	B BfyVlv	G GatVlv	A AlmChk	D DPVlv
	F F45Ell							
1.049	2.00	5.00	2.00	5.00	6.00	1.00	10.00	2.00
	1.00							
1.380	3.00	6.00	2.00	7.00	6.00	1.00	10.00	10.00
	1.50							
2.067	5.00	10.00	3.00	11.00	6.00	1.00	10.00	10.00
	2.50							
2.469	6.00	12.00	4.00	14.00	7.00	1.00	10.00	10.00
	3.00							
3.068	7.00	15.00	5.00	16.00	10.00	1.00	13.00	13.00
	3.50							
4.026	10.00	20.00	6.00	22.00	12.00	2.00	20.00	20.00
	5.00							
6.065	14.00	30.00	9.00	32.00	10.00	3.00	28.00	28.00
	7.00							

WATER SUPPLY ANALYSIS

Fixed Source Pressure: 1.00 psi



- 1) Dashed Lines indicate extrapolated values from Test Results
- 2) On Site pressures are based on hose stream deduction at the source



WATER SUPPLY CURVE

