

LIBERAL IRRIGATION LLC

SEPTEMBER 29, 2025

WISH-119630

CUSTOMER : BRENT WOODS

VALLEY 8000 - 30
8 TOWER - 1309.64 FT
SYSTEM 400 GPM @ 11 PSI

LEGAL : NE 1/4 1-31-31

SENNINGER UP3 LDN SPRAY NOZZLES
SENNINGER 10 & 6 PSI REGULATORS
NO ENDGUN
ELEVATION 2 FT UP, 2 FT DOWN

524 EAST PANCAKE BLVD

LIBERAL, KANSAS 67901

(620)482-6090

WARRANTY

WATER APPLICATION UNIFORMITY OBTAINED WITH THIS SYSTEM CAN BE ADVERSELY AFFECTED BY MANY VARIABLES INCLUDING THE IMPROPER MAKEUP OR INSTALLATION OF THE SPRINKLER OR SPRAY NOZZLE PACKAGE, OBSTRUCTED NOZZLES, MAINTAINING INCORRECT PIVOT PRESSURE, UNFAVORABLE CLIMATIC CONDITIONS, TIGHT AND/OR SLOPING SOILS, IMPROPER END GUN ARC SETTINGS, ERRATIC AND IMPROPER OPERATING SPEED OF THE SYSTEM, POOR QUALITY OF WATER WITH ABRASIVES, CORROSIVES, AND/OR SOLIDS WHICH CAN CAUSE PLUGGING AND JAMMING, AS WELL AS INHERENT VARIABLES IN THE MANY COMPONENTS COMPRISING THE SYSTEM. THEREFORE WESTERN IRRIGATION SUPPLY HOUSE, INC., MAKES NO WARRANTY AS TO THE UNIFORMITY OF COVERAGE OBTAINED FROM THIS WATER APPLICATION PRINTOUT OTHER THAN ITS MATHEMATICAL ACCURACY.

IT IS THE RESPONSIBILITY OF THE END USER TO DETERMINE IF ANY INCOMPATIBILITY EXISTS BETWEEN THE WATER DISTRIBUTION DEVICES AND THE CROP, THE SOIL, AND THE PHYSICAL STRUCTURE OF THE MECHANICAL MOVE SYSTEM. WESTERN IRRIGATION SUPPLY HOUSE, INC., THEREFORE, DISCLAIMS ANY LIABILITY FOR DAMAGES DUE TO FAILURE OF THE SYSTEM TO PERFORM AS CONTEMPLATED.

FIGURES PRESENTED ON THIS COMPUTER PRINTOUT ARE BASED ON THE FOLLOWING:

1. DATA FURNISHED TO WESTERN IRRIGATION SUPPLY HOUSE, INC., ON PIPE LENGTH, DIAMETER, SURFACE FINISH, OUTLET SPACINGS, WATER FLOW, PIVOT PRESSURE AND ALL OTHER APPLICABLE INFORMATION.
2. THERE IS 100% WATER APPLICATION EFFICIENCY (ZERO WIND VELOCITY AND NO EVAPORATION).
3. PIVOT PRESSURE IS MEASURED ON THE MAIN HORIZONTAL DISTRIBUTION PIPE JUST AFTER THE LAST ELBOW.
4. MAIN PIPE PRESSURE IS CALCULATED AS IF THE PIVOT IS ALWAYS ON LEVEL GROUND.
5. SPRINKLER OR SPRAY NOZZLE BASE PRESSURE MAY BE LESS THAN MAIN LINE PIPE PRESSURE DUE TO THE USE OF PRESSURE REGULATORS. WHERE DROP PIPES ARE USED THE STATIC HEAD IS ADDED TO AND FRICTION LOSS IS SUBTRACTED FROM THE MAIN LINE PIPE PRESSURE TO DETERMINE INLET PSI. REGULATORS ARE CONSIDERED MOUNTED AT THE SAME HEIGHT AS THE SPRINKLING DEVICE UNLESS NOTED.

DEALER
LIBERAL IRRIGATION LLC
524 EAST PANCAKE BLVD
LIBERAL, KANSAS 67901

IRRIGATOR
BRENT WOODS
NE 1/4 1-31-31

				SPAN #	LENGTH	PIPE I.D.	# OF HEADS
TOTAL TARGET GPM	400.00	FRICTION FACTOR USED	140				
TOP OF PIVOT PRESSURE	11.00	TOTAL LENGTH	1309.64	1	160.85	6.415	26
NO ENDGUN		NUMBER OF TOWERS	8	2	160.11	6.415	32
NUMBER OF OUTLETS	509	NUMBER OF SPRINKLERS	256	3	160.11	6.415	32
				4	160.11	6.415	32
SENNINGER UP3 LDN SPRAY NOZZLES - CONCAVE GROOVED PADS				5	160.11	6.415	32
SENNINGER PSR-2 10 & 6 PSI SERIES REGULATORS				6	160.11	6.415	32
DROPS AVERAGE 12.5 FT OF .75 I.D. FLEXIBLE HOSE WITH 24 INCH SLIP POLYWEIGHT®				7	160.11	6.415	32
ELEVATION IS 2 FT UP AND 2 FT DOWN				8	159.85	6.415	32
				OH	18.28	6.415	4
					10.00	2.06	2

CAUTIONS AND WARNINGS

1. Over watering at beginning of system due to practical limitations on smallest nozzle sizes available and/or allowable for proper operation.

2. When using spray nozzles with five foot ground clearance or less, nozzle should travel between crop rows and spacing should not exceed 80 inches.

3. This system designed for minimum pressure. Failure to deliver indicated pressure at the top of pivot point will adversely affect regulator and/or sprinkler/spray performance. Elevations, pipe sizes and type of drop pipe must be as shown.

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE										SPRK NO.	REG SIZE	PLUG NO.
1		5.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
2		14.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
3	23.40	23.40	0.18	0.37	10.60	11.40	LD	NOZ	UP3	4	LT	BLUE					1	SPSR2-10	
4	9.00	32.40	0.14	0.37	10.42	11.40	LD	NOZ	UP3	4	LT	BLUE					2	SPSR2-10	
5	9.00	41.40	0.13	0.37	10.27	11.40	LD	NOZ	UP3	4	LT	BLUE					3	SPSR2-10	
6	4.54	45.94	0.10	0.37	10.20	11.40	LD	NOZ	UP3	4	LT	BLUE					4	SPSR2-10	
7		48.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
8	5.00	50.94	0.12	0.37	10.13	11.40	LD	NOZ	UP3	4	LT	BLUE					5	SPSR2-10	
9		53.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
10	5.00	55.94	0.13	0.37	10.07	11.40	LD	NOZ	UP3	4	LT	BLUE					6	SPSR2-10	
11		58.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
12	5.00	60.94	0.14	0.37	10.02	11.40	LD	NOZ	UP3	4	LT	BLUE					7	SPSR2-10	
13		63.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
14	5.00	65.94	0.15	0.37	9.97	11.40	LD	NOZ	UP3	4	LT	BLUE					8	SPSR2-10	
15		68.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
16	5.00	70.94	0.16	0.37	9.94	11.40	LD	NOZ	UP3	4	LT	BLUE					9	SPSR2-10	
17		73.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
18	5.00	75.94	0.17	0.37	9.91	11.40	LD	NOZ	UP3	4	LT	BLUE					10	SPSR2-10	
19		78.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
20	4.95	80.89	0.18	0.37	9.89	11.40	LD	NOZ	UP3	4	LT	BLUE					11	SPSR2-10	
21		83.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
22	4.95	85.84	0.20	0.37	9.88	11.40	LD	NOZ	UP3	4	LT	BLUE					12	SPSR2-10	
23		88.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
24	5.00	90.84	0.21	0.37	9.87	11.40	LD	NOZ	UP3	4	LT	BLUE					13	SPSR2-10	
25		93.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
26	5.00	95.84	0.22	0.37	9.87	11.40	LD	NOZ	UP3	4	LT	BLUE					14	SPSR2-10	
27		98.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
28	5.00	100.84	0.23	0.37	9.88	11.40	LD	NOZ	UP3	4	LT	BLUE					15	SPSR2-10	
29		103.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
30	5.00	105.84	0.24	0.37	9.90	11.40	LD	NOZ	UP3	4	LT	BLUE					16	SPSR2-10	
31		108.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
32	5.00	110.84	0.26	0.37	9.93	11.40	LD	NOZ	UP3	4	LT	BLUE					17	SPSR2-10	
33		113.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
34	5.00	115.84	0.27	0.37	9.96	11.40	LD	NOZ	UP3	4	LT	BLUE					18	SPSR2-10	
35		118.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
36	5.00	120.84	0.28	0.37	10.00	11.40	LD	NOZ	UP3	4	LT	BLUE					19	SPSR2-10	
37		123.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18
38	5.00	125.84	0.29	0.37	10.05	11.40	LD	NOZ	UP3	4	LT	BLUE					20	SPSR2-10	
39		128.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
40	5.00	130.84	0.30	0.37	10.11	11.40	LD	NOZ	UP3	4	LT	BLUE					21	SPSR2-10	
41		133.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
42	5.00	135.84	0.31	0.37	10.18	11.40	LD	NOZ	UP3	4	LT	BLUE					22	SPSR2-10	
43		138.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21
44	5.00	140.84	0.32	0.37	10.25	11.40	LD	NOZ	UP3	4	LT	BLUE					23	SPSR2-10	
45		143.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22
46	5.00	145.84	0.34	0.37	10.33	11.40	LD	NOZ	UP3	4	LT	BLUE					24	SPSR2-10	
47		148.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
48	5.00	150.84	0.35	0.37	10.42	11.40	LD	NOZ	UP3	4	LT	BLUE					25	SPSR2-10	

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE					SPRK NO.	REG SIZE	PLUG NO.
96	5.00	270.95	0.62	0.57	9.37	7.27	LD	NOZ	UP3	5.5	BEIGE	49	SPSR2-06	48
97		273.45	-	-	-	-	-	-	-	-	-	-	-	
98	5.00	275.95	0.64	0.68	9.40	7.27	LD	NOZ	UP3	6	GOLD	50	SPSR2-06	49
99		278.45	-	-	-	-	-	-	-	-	-	-	-	
100	5.00	280.95	0.65	0.68	9.45	7.27	LD	NOZ	UP3	6	GOLD	51	SPSR2-06	50
101		283.45	-	-	-	-	-	-	-	-	-	-	-	
102	5.00	285.95	0.66	0.68	9.50	7.27	LD	NOZ	UP3	6	GOLD	52	SPSR2-06	51
103		288.45	-	-	-	-	-	-	-	-	-	-	-	
104	5.00	290.95	0.67	0.68	9.56	7.27	LD	NOZ	UP3	6	GOLD	53	SPSR2-06	52
105		293.45	-	-	-	-	-	-	-	-	-	-	-	
106	5.00	295.95	0.68	0.68	9.62	7.27	LD	NOZ	UP3	6	GOLD	54	SPSR2-06	53
107		298.45	-	-	-	-	-	-	-	-	-	-	-	
108	5.00	300.95	0.69	0.68	9.70	7.27	LD	NOZ	UP3	6	GOLD	55	SPSR2-06	54
109		303.45	-	-	-	-	-	-	-	-	-	-	-	
110	5.00	305.95	0.70	0.68	9.78	7.27	LD	NOZ	UP3	6	GOLD	56	SPSR2-06	55
111		308.45	-	-	-	-	-	-	-	-	-	-	-	
112	5.00	310.95	0.72	0.68	9.87	7.27	LD	NOZ	UP3	6	GOLD	57	SPSR2-06	56
113		313.45	-	-	-	-	-	-	-	-	-	-	-	
114	5.00	315.95	0.74	0.68	9.88	7.27	LD	NOZ	UP3	6	GOLD	58	SPSR2-06	57
115		318.45	-	-	-	-	-	-	-	-	-	-	-	
TOWER 2	160.11	320.96												
116	5.21	321.16	0.75	0.80	9.86	7.26	LD	NOZ	UP3	6.5	GOLD	59	SPSR2-06	58
117		323.66	-	-	-	-	-	-	-	-	-	-	-	
118	5.00	326.16	0.75	0.80	9.85	7.26	LD	NOZ	UP3	6.5	GOLD	60	SPSR2-06	59
119		328.66	-	-	-	-	-	-	-	-	-	-	-	
120	5.00	331.16	0.76	0.80	9.76	7.26	LD	NOZ	UP3	6.5	GOLD	61	SPSR2-06	60
121		333.66	-	-	-	-	-	-	-	-	-	-	-	
122	5.00	336.16	0.77	0.80	9.64	7.26	LD	NOZ	UP3	6.5	GOLD	62	SPSR2-06	61
123		338.66	-	-	-	-	-	-	-	-	-	-	-	
124	5.00	341.16	0.78	0.80	9.53	7.26	LD	NOZ	UP3	6.5	GOLD	63	SPSR2-06	62
125		343.66	-	-	-	-	-	-	-	-	-	-	-	
126	5.00	346.16	0.80	0.80	9.43	7.26	LD	NOZ	UP3	6.5	GOLD	64	SPSR2-06	63
127		348.66	-	-	-	-	-	-	-	-	-	-	-	
128	5.00	351.16	0.81	0.80	9.33	7.26	LD	NOZ	UP3	6.5	GOLD	65	SPSR2-06	64
129		353.66	-	-	-	-	-	-	-	-	-	-	-	
130	5.00	356.16	0.82	0.80	9.24	7.26	LD	NOZ	UP3	6.5	GOLD	66	SPSR2-06	65
131		358.66	-	-	-	-	-	-	-	-	-	-	-	
132	5.00	361.16	0.83	0.80	9.16	7.26	LD	NOZ	UP3	6.5	GOLD	67	SPSR2-06	66
133		363.66	-	-	-	-	-	-	-	-	-	-	-	
134	5.00	366.16	0.84	0.80	9.09	7.26	LD	NOZ	UP3	6.5	GOLD	68	SPSR2-06	67
135		368.66	-	-	-	-	-	-	-	-	-	-	-	
136	5.00	371.16	0.85	0.80	9.02	7.26	LD	NOZ	UP3	6.5	GOLD	69	SPSR2-06	68
137		373.66	-	-	-	-	-	-	-	-	-	-	-	
138	5.00	376.16	0.87	0.80	8.97	7.26	LD	NOZ	UP3	6.5	GOLD	70	SPSR2-06	69
139		378.66	-	-	-	-	-	-	-	-	-	-	-	
140	5.00	381.16	0.88	0.93	8.92	7.25	LD	NOZ	UP3	7	LIME	71	SPSR2-06	70
141		383.66	-	-	-	-	-	-	-	-	-	-	-	
142	5.00	386.16	0.89	0.93	8.88	7.25	LD	NOZ	UP3	7	LIME	72	SPSR2-06	

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE					SPRK NO.	REG SIZE	PLUG NO.
238	5.00	626.17	1.44	1.37	8.87	7.23	LD	NOZ	UP3	8.5	LAVENDER	120	SPSR2-06	119
239		628.67	-	-	-	-	-	-	-	-	-	-	-	
240	5.00	631.17	1.45	1.37	8.97	7.23	LD	NOZ	UP3	8.5	LAVENDER	121	SPSR2-06	120
241		633.67	-	-	-	-	-	-	-	-	-	-	-	
242	5.00	636.17	1.50	1.54	8.98	7.22	LD	NOZ	UP3	9	GREY	122	SPSR2-06	121
243		638.67	-	-	-	-	-	-	-	-	-	-	-	
TOWER 4	160.11	641.18												
244	5.21	641.38	1.51	1.54	8.97	7.22	LD	NOZ	UP3	9	GREY	123	SPSR2-06	122
245		643.88	-	-	-	-	-	-	-	-	-	-	-	
246	5.00	646.38	1.49	1.54	8.96	7.22	LD	NOZ	UP3	9	GREY	124	SPSR2-06	123
247		648.88	-	-	-	-	-	-	-	-	-	-	-	
248	5.00	651.38	1.50	1.54	8.88	7.22	LD	NOZ	UP3	9	GREY	125	SPSR2-06	124
249		653.88	-	-	-	-	-	-	-	-	-	-	-	
250	5.00	656.38	1.51	1.54	8.77	7.22	LD	NOZ	UP3	9	GREY	126	SPSR2-06	125
251		658.88	-	-	-	-	-	-	-	-	-	-	-	
252	5.00	661.38	1.52	1.54	8.66	7.22	LD	NOZ	UP3	9	GREY	127	SPSR2-06	126
253		663.88	-	-	-	-	-	-	-	-	-	-	-	
254	5.00	666.38	1.53	1.54	8.56	7.22	LD	NOZ	UP3	9	GREY	128	SPSR2-06	127
255		668.88	-	-	-	-	-	-	-	-	-	-	-	
256	5.00	671.38	1.55	1.54	8.47	7.22	LD	NOZ	UP3	9	GREY	129	SPSR2-06	128
257		673.88	-	-	-	-	-	-	-	-	-	-	-	
258	5.00	676.38	1.56	1.54	8.39	7.22	LD	NOZ	UP3	9	GREY	130	SPSR2-06	129
259		678.88	-	-	-	-	-	-	-	-	-	-	-	
260	5.00	681.38	1.57	1.54	8.31	7.22	LD	NOZ	UP3	9	GREY	131	SPSR2-06	130
261		683.88	-	-	-	-	-	-	-	-	-	-	-	
262	5.00	686.38	1.58	1.54	8.25	7.22	LD	NOZ	UP3	9	GREY	132	SPSR2-06	131
263		688.88	-	-	-	-	-	-	-	-	-	-	-	
264	5.00	691.38	1.59	1.54	8.19	7.22	LD	NOZ	UP3	9	GREY	133	SPSR2-06	132
265		693.88	-	-	-	-	-	-	-	-	-	-	-	
266	5.00	696.38	1.60	1.54	8.14	7.22	LD	NOZ	UP3	9	GREY	134	SPSR2-06	133
267		698.88	-	-	-	-	-	-	-	-	-	-	-	
268	5.00	701.38	1.62	1.54	8.09	7.22	LD	NOZ	UP3	9	GREY	135	SPSR2-06	134
269		703.88	-	-	-	-	-	-	-	-	-	-	-	
270	5.00	706.38	1.63	1.54	8.06	7.22	LD	NOZ	UP3	9	GREY	136	SPSR2-06	135
271		708.88	-	-	-	-	-	-	-	-	-	-	-	
272	5.00	711.38	1.64	1.72	8.03	7.21	LD	NOZ	UP3	9.5	GREY	137	SPSR2-06	136
273		713.88	-	-	-	-	-	-	-	-	-	-	-	
274	5.00	716.38	1.64	1.72	8.01	7.21	LD	NOZ	UP3	9.5	GREY	138	SPSR2-06	137
275		718.88	-	-	-	-	-	-	-	-	-	-	-	
276	4.95	721.33	1.65	1.72	8.00	7.21	LD	NOZ	UP3	9.5	GREY	139	SPSR2-06	138
277		723.78	-	-	-	-	-	-	-	-	-	-	-	
278	4.95	726.28	1.66	1.72	7.99	7.21	LD	NOZ	UP3	9.5	GREY	140	SPSR2-06	139
279		728.78	-	-	-	-	-	-	-	-	-	-	-	
280	5.00	731.28	1.68	1.72	8.00	7.21	LD	NOZ	UP3	9.5	GREY	141	SPSR2-06	140
281		733.78	-	-	-	-	-	-	-	-	-	-	-	
282	5.00	736.28	1.70	1.72	8.01	7.21	LD	NOZ	UP3	9.5	GREY	142	SPSR2-06	141
283		738.78	-	-	-	-	-	-	-	-	-	-	-	
284	5.00	741.28	1.71	1.72	8.03	7.21	LD	NOZ	UP3	9.5	GREY	143	SPSR2-06	

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE					SPRK NO.	REG SIZE	PLUG NO.
332	5.00	861.49	1.99	1.91	7.83	7.20	LD	NOZ	UP3	10	TURQUOISE	167	SPSR2-06	166
333		863.99	-	-	-	-	-	-	-	-	-	-	-	
334	5.00	866.49	2.00	1.91	7.80	7.20	LD	NOZ	UP3	10	TURQUOISE	168	SPSR2-06	167
335		868.99	-	-	-	-	-	-	-	-	-	-	-	
336	5.00	871.49	2.01	2.10	7.77	7.19	LD	NOZ	UP3	10.5	TURQUOISE	169	SPSR2-06	168
337		873.99	-	-	-	-	-	-	-	-	-	-	-	
338	5.00	876.49	2.01	2.10	7.76	7.19	LD	NOZ	UP3	10.5	TURQUOISE	170	SPSR2-06	169
339		878.99	-	-	-	-	-	-	-	-	-	-	-	
340	4.95	881.44	2.01	2.10	7.75	7.19	LD	NOZ	UP3	10.5	TURQUOISE	171	SPSR2-06	170
341		883.89	-	-	-	-	-	-	-	-	-	-	-	
342	4.95	886.39	2.03	2.10	7.75	7.19	LD	NOZ	UP3	10.5	TURQUOISE	172	SPSR2-06	171
343		888.89	-	-	-	-	-	-	-	-	-	-	-	
344	5.00	891.39	2.05	2.10	7.76	7.19	LD	NOZ	UP3	10.5	TURQUOISE	173	SPSR2-06	172
345		893.89	-	-	-	-	-	-	-	-	-	-	-	
346	5.00	896.39	2.06	2.10	7.77	7.19	LD	NOZ	UP3	10.5	TURQUOISE	174	SPSR2-06	173
347		898.89	-	-	-	-	-	-	-	-	-	-	-	
348	5.00	901.39	2.08	2.10	7.79	7.19	LD	NOZ	UP3	10.5	TURQUOISE	175	SPSR2-06	174
349		903.89	-	-	-	-	-	-	-	-	-	-	-	
350	5.00	906.39	2.09	2.10	7.83	7.19	LD	NOZ	UP3	10.5	TURQUOISE	176	SPSR2-06	175
351		908.89	-	-	-	-	-	-	-	-	-	-	-	
352	5.00	911.39	2.10	2.10	7.86	7.19	LD	NOZ	UP3	10.5	TURQUOISE	177	SPSR2-06	176
353		913.89	-	-	-	-	-	-	-	-	-	-	-	
354	5.00	916.39	2.11	2.10	7.91	7.19	LD	NOZ	UP3	10.5	TURQUOISE	178	SPSR2-06	177
355		918.89	-	-	-	-	-	-	-	-	-	-	-	
356	5.00	921.39	2.12	2.10	7.97	7.19	LD	NOZ	UP3	10.5	TURQUOISE	179	SPSR2-06	178
357		923.89	-	-	-	-	-	-	-	-	-	-	-	
358	5.00	926.39	2.13	2.10	8.03	7.19	LD	NOZ	UP3	10.5	TURQUOISE	180	SPSR2-06	179
359		928.89	-	-	-	-	-	-	-	-	-	-	-	
360	5.00	931.39	2.14	2.10	8.10	7.19	LD	NOZ	UP3	10.5	TURQUOISE	181	SPSR2-06	180
361		933.89	-	-	-	-	-	-	-	-	-	-	-	
362	5.00	936.39	2.16	2.10	8.18	7.19	LD	NOZ	UP3	10.5	TURQUOISE	182	SPSR2-06	181
363		938.89	-	-	-	-	-	-	-	-	-	-	-	
364	5.00	941.39	2.17	2.10	8.26	7.19	LD	NOZ	UP3	10.5	TURQUOISE	183	SPSR2-06	182
365		943.89	-	-	-	-	-	-	-	-	-	-	-	
366	5.00	946.39	2.18	2.10	8.36	7.19	LD	NOZ	UP3	10.5	TURQUOISE	184	SPSR2-06	183
367		948.89	-	-	-	-	-	-	-	-	-	-	-	
368	5.00	951.39	2.19	2.10	8.46	7.19	LD	NOZ	UP3	10.5	TURQUOISE	185	SPSR2-06	184
369		953.89	-	-	-	-	-	-	-	-	-	-	-	
370	5.00	956.39	2.25	2.30	8.48	7.18	LD	NOZ	UP3	11	YELLOW	186	SPSR2-06	185
371		958.89	-	-	-	-	-	-	-	-	-	-	-	
TOWER 6	160.11	961.40												
372	5.21	961.60	2.26	2.30	8.48	7.18	LD	NOZ	UP3	11	YELLOW	187	SPSR2-06	186
373		964.10	-	-	-	-	-	-	-	-	-	-	-	
374	5.00	966.60	2.23	2.30	8.47	7.18	LD	NOZ	UP3	11	YELLOW	188	SPSR2-06	187
375		969.10	-	-	-	-	-	-	-	-	-	-	-	
376	5.00	971.60	2.24	2.30	8.40	7.18	LD	NOZ	UP3	11	YELLOW	189	SPSR2-06	188
377		974.10	-	-	-	-	-	-	-	-	-	-	-	
378	5.00	976.60	2.25	2.30	8.29	7.18	LD	NOZ	UP3	11	YELLOW	190	SPSR2-06	

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE					SPRK NO.	REG SIZE	PLUG NO.
379		979.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	189
380	5.00	981.60	2.26	2.30	8.19	7.18	LD NOZ UP3 11	YELLOW				191	SPSR2-06	
381		984.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	190
382	5.00	986.60	2.27	2.30	8.10	7.18	LD NOZ UP3 11	YELLOW				192	SPSR2-06	
383		989.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	191
384	5.00	991.60	2.28	2.30	8.02	7.18	LD NOZ UP3 11	YELLOW				193	SPSR2-06	
385		994.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	192
386	5.00	996.60	2.29	2.30	7.94	7.18	LD NOZ UP3 11	YELLOW				194	SPSR2-06	
387		999.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	193
388	5.00	1001.60	2.31	2.30	7.87	7.18	LD NOZ UP3 11	YELLOW				195	SPSR2-06	
389		1004.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	194
390	5.00	1006.60	2.32	2.30	7.81	7.18	LD NOZ UP3 11	YELLOW				196	SPSR2-06	
391		1009.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	195
392	5.00	1011.60	2.33	2.30	7.76	7.18	LD NOZ UP3 11	YELLOW				197	SPSR2-06	
393		1014.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	196
394	5.00	1016.60	2.34	2.30	7.71	7.18	LD NOZ UP3 11	YELLOW				198	SPSR2-06	
395		1019.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	197
396	5.00	1021.60	2.35	2.30	7.68	7.18	LD NOZ UP3 11	YELLOW				199	SPSR2-06	
397		1024.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	198
398	5.00	1026.60	2.37	2.30	7.65	7.18	LD NOZ UP3 11	YELLOW				200	SPSR2-06	
399		1029.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	199
400	5.00	1031.60	2.38	2.30	7.63	7.18	LD NOZ UP3 11	YELLOW				201	SPSR2-06	
401		1034.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	200
402	5.00	1036.60	2.38	2.30	7.61	7.18	LD NOZ UP3 11	YELLOW				202	SPSR2-06	
403		1039.10	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	201
404	4.95	1041.55	2.38	2.30	7.61	7.18	LD NOZ UP3 11	YELLOW				203	SPSR2-06	
405		1044.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	202
406	4.95	1046.50	2.40	2.30	7.61	7.18	LD NOZ UP3 11	YELLOW				204	SPSR2-06	
407		1049.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	203
408	5.00	1051.50	2.43	2.51	7.62	7.17	LD NOZ UP3 11.5	YELLOW				205	SPSR2-06	
409		1054.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	204
410	5.00	1056.50	2.44	2.51	7.64	7.17	LD NOZ UP3 11.5	YELLOW				206	SPSR2-06	
411		1059.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	205
412	5.00	1061.50	2.45	2.51	7.67	7.17	LD NOZ UP3 11.5	YELLOW				207	SPSR2-06	
413		1064.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	206
414	5.00	1066.50	2.46	2.51	7.70	7.17	LD NOZ UP3 11.5	YELLOW				208	SPSR2-06	
415		1069.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	207
416	5.00	1071.50	2.47	2.51	7.74	7.17	LD NOZ UP3 11.5	YELLOW				209	SPSR2-06	
417		1074.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	208
418	5.00	1076.50	2.48	2.51	7.79	7.17	LD NOZ UP3 11.5	YELLOW				210	SPSR2-06	
419		1079.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	209
420	5.00	1081.50	2.49	2.51	7.85	7.17	LD NOZ UP3 11.5	YELLOW				211	SPSR2-06	
421		1084.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	210
422	5.00	1086.50	2.50	2.51	7.91	7.17	LD NOZ UP3 11.5	YELLOW				212	SPSR2-06	
423		1089.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	211
424	5.00	1091.50	2.52	2.51	7.99	7.17	LD NOZ UP3 11.5	YELLOW				213	SPSR2-06	
425		1094.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	212
426	5.00	1096.50	2.53	2.51	8.07	7.17	LD NOZ UP3 11.5	YELLOW				214	SPSR2-06	

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE						SPRK NO.	REG SIZE	PLUG NO.
427		1099.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	213
428	5.00	1101.50	2.54	2.51	8.16	7.17	LD	NOZ	UP3	11.5	YELLOW		215	SPSR2-06	
429		1104.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	214
430	5.00	1106.50	2.55	2.51	8.26	7.17	LD	NOZ	UP3	11.5	YELLOW		216	SPSR2-06	
431		1109.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	215
432	5.00	1111.50	2.56	2.51	8.36	7.17	LD	NOZ	UP3	11.5	YELLOW		217	SPSR2-06	
433		1114.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	216
434	5.00	1116.50	2.63	2.74	8.39	7.15	LD	NOZ	UP3	12	RED		218	SPSR2-06	
435		1119.00	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	217
TOWER 7	160.11	1121.51													
436	5.21	1121.71	2.64	2.74	8.38	7.15	LD	NOZ	UP3	12	RED		219	SPSR2-06	
437		1124.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	218
438	5.00	1126.71	2.59	2.51	8.38	7.17	LD	NOZ	UP3	11.5	YELLOW		220	SPSR2-06	
439		1129.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	219
440	5.00	1131.71	2.61	2.51	8.31	7.17	LD	NOZ	UP3	11.5	YELLOW		221	SPSR2-06	
441		1134.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	220
442	5.00	1136.71	2.62	2.51	8.21	7.17	LD	NOZ	UP3	11.5	YELLOW		222	SPSR2-06	
443		1139.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	221
444	5.00	1141.71	2.64	2.74	8.11	7.15	LD	NOZ	UP3	12	RED		223	SPSR2-06	
445		1144.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	222
446	5.00	1146.71	2.64	2.74	8.02	7.15	LD	NOZ	UP3	12	RED		224	SPSR2-06	
447		1149.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	223
448	5.00	1151.71	2.65	2.74	7.94	7.15	LD	NOZ	UP3	12	RED		225	SPSR2-06	
449		1154.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	224
450	5.00	1156.71	2.66	2.74	7.86	7.15	LD	NOZ	UP3	12	RED		226	SPSR2-06	
451		1159.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	225
452	5.00	1161.71	2.67	2.74	7.80	7.15	LD	NOZ	UP3	12	RED		227	SPSR2-06	
453		1164.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	226
454	5.00	1166.71	2.68	2.74	7.74	7.15	LD	NOZ	UP3	12	RED		228	SPSR2-06	
455		1169.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	227
456	5.00	1171.71	2.69	2.74	7.69	7.15	LD	NOZ	UP3	12	RED		229	SPSR2-06	
457		1174.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	228
458	5.00	1176.71	2.70	2.74	7.65	7.15	LD	NOZ	UP3	12	RED		230	SPSR2-06	
459		1179.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	229
460	5.00	1181.71	2.71	2.74	7.61	7.15	LD	NOZ	UP3	12	RED		231	SPSR2-06	
461		1184.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	230
462	5.00	1186.71	2.72	2.74	7.59	7.15	LD	NOZ	UP3	12	RED		232	SPSR2-06	
463		1189.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	231
464	5.00	1191.71	2.73	2.74	7.57	7.15	LD	NOZ	UP3	12	RED		233	SPSR2-06	
465		1194.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	232
466	5.00	1196.71	2.73	2.74	7.56	7.15	LD	NOZ	UP3	12	RED		234	SPSR2-06	
467		1199.21	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	233
468	4.95	1201.66	2.73	2.74	7.55	7.15	LD	NOZ	UP3	12	RED		235	SPSR2-06	
469		1204.11	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	234
470	4.95	1206.61	2.75	2.74	7.56	7.15	LD	NOZ	UP3	12	RED		236	SPSR2-06	
471		1209.11	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	235
472	5.00	1211.61	2.78	2.74	7.57	7.15	LD	NOZ	UP3	12	RED		237	SPSR2-06	
473		1214.11	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	236

OUTLET NO.	LAST OUTLET	DISTANCE TO PIVOT	GPM NEED	GPM DEL.	PIPE PSI	NOZZLE PSI	SPRINKLER LABEL AND NOZZLE SIZE										SPRK NO.	REG SIZE	PLUG NO.
474	5.00	1216.61	2.79	2.74	7.59	7.15	LD	NOZ	UP3	12	RED				238	SPSR2-06	237		
475		1219.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
476	5.00	1221.61	2.80	2.74	7.62	7.15	LD	NOZ	UP3	12	RED				239	SPSR2-06	238		
477		1224.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
478	5.00	1226.61	2.82	2.74	7.66	7.15	LD	NOZ	UP3	12	RED				240	SPSR2-06	239		
479		1229.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
480	5.00	1231.61	2.83	2.74	7.70	7.15	LD	NOZ	UP3	12	RED				241	SPSR2-06	240		
481		1234.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
482	5.00	1236.61	2.85	2.74	7.75	7.15	LD	NOZ	UP3	12	RED				242	SPSR2-06	241		
483		1239.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
484	5.00	1241.61	2.87	2.97	7.81	7.14	LD	NOZ	UP3	12.5	RED				243	SPSR2-06	242		
485		1244.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
486	5.00	1246.61	2.88	2.97	7.88	7.14	LD	NOZ	UP3	12.5	RED				244	SPSR2-06	243		
487		1249.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
488	5.00	1251.61	2.88	2.97	7.96	7.14	LD	NOZ	UP3	12.5	RED				245	SPSR2-06	244		
489		1254.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
490	5.00	1256.61	2.88	2.97	8.04	7.14	LD	NOZ	UP3	12.5	RED				246	SPSR2-06	245		
491		1259.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
492	5.00	1261.61	2.89	2.97	8.13	7.14	LD	NOZ	UP3	12.5	RED				247	SPSR2-06	246		
493		1264.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
494	5.00	1266.61	2.89	2.97	8.23	7.14	LD	NOZ	UP3	12.5	RED				248	SPSR2-06	247		
495		1269.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
496	5.00	1271.61	2.89	2.97	8.34	7.14	LD	NOZ	UP3	12.5	RED				249	SPSR2-06	248		
497		1274.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
498	5.00	1276.61	2.88	2.97	8.36	7.14	LD	NOZ	UP3	12.5	RED				250	SPSR2-06	249		
499		1279.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
TOWER 8	159.85	1281.36																	
500	4.95	1281.56	2.88	2.97	8.36	7.14	LD	NOZ	UP3	12.5	RED				251	SPSR2-06	250		
501		1284.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
502	5.00	1286.56	2.89	2.97	8.36	7.14	LD	NOZ	UP3	12.5	RED				252	SPSR2-06	251		
503		1289.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
504	5.00	1291.56	2.89	2.97	8.36	7.14	LD	NOZ	UP3	12.5	RED				253	SPSR2-06	252		
505		1294.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
506	5.00	1296.56	3.76	3.72	8.36	7.09	LD	NOZ	UP3	14	BLUE				254	SPSR2-06	253		
507		1299.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PIPE ID CHANGES FROM 6.415 TO 2.060																			
508	8.08	1304.64	3.81	3.72	8.36	7.09	LD	NOZ	UP3	14	BLUE				255	SPSR2-06			
509	5.00	1309.64	3.72	3.72	8.36	7.09	LD	NOZ	UP3	14	BLUE				256	SPSR2-06			
OVERHANG	28.28	1309.64																	

TOTAL GPM = 400.70

GPA = 3.23

MINIMUM RECOMMENDED REGULATOR INLET PRESSURE IS 15.00 PSI

WITH GRADUATED ELEVATION OF 2.00 FT THE INLET PRESSURE IS 15.08 PSI FOR SPRINKLER 25

THIS POSITION IS THE CLOSEST TO THE MINIMUM RECOMMENDED INLET PRESSURE

HYDRAULICS SUMMARY

<u>TOWER NUMBER</u>	<u>ACRES UNDER SPAN</u>	<u>GPM NEED</u>	<u>ACTUAL GPM</u>	<u>PERCENT DEVIATION</u>	<u>GPM PER ACRE</u>	<u>AVERAGE IN. PER HR DELIVERED UNDER SPAN</u>	<u>AVERAGE IN. DELIVERED FOR REVOLUTION TIME</u>		
							<u>36 HR</u>	<u>48 HR</u>	<u>60 HR</u>
1	1.87	6.03	9.89	64%	5.30	0.012	0.42	0.56	0.70
2	5.56	17.99	17.59	-2%	3.16	0.007	0.25	0.34	0.42
3	9.26	29.95	29.63	-1%	3.20	0.007	0.25	0.34	0.42
4	12.96	41.90	41.08	-2%	3.17	0.007	0.25	0.34	0.42
5	16.66	53.86	53.03	-2%	3.18	0.007	0.25	0.34	0.42
6	20.35	65.82	64.91	-1%	3.19	0.007	0.25	0.34	0.42
7	24.05	77.78	76.97	-1%	3.20	0.007	0.25	0.34	0.42
8	27.70	89.58	88.91	-1%	3.21	0.007	0.26	0.34	0.43
OVERHANG	5.28	17.09	18.68	9%	3.54	0.008	0.28	0.38	0.47
TOTAL	123.70	400.00	400.70		3.24				

SUMMARY OF SPRINKLERS

26 LD NOZ UP3 4 LT BLUE
6 LD NOZ UP3 4.5 LT BLUE
8 LD NOZ UP3 5 BEIGE
9 LD NOZ UP3 5.5 BEIGE
9 LD NOZ UP3 6 GOLD
12 LD NOZ UP3 6.5 GOLD
11 LD NOZ UP3 7 LIME
13 LD NOZ UP3 7.5 LIME
13 LD NOZ UP3 8 LAVENDER
14 LD NOZ UP3 8.5 LAVENDER
15 LD NOZ UP3 9 GREY
16 LD NOZ UP3 9.5 GREY
16 LD NOZ UP3 10 TURQUOISE
17 LD NOZ UP3 10.5 TURQUOISE
19 LD NOZ UP3 11 YELLOW
16 LD NOZ UP3 11.5 YELLOW
22 LD NOZ UP3 12 RED
11 LD NOZ UP3 12.5 RED
3 LD NOZ UP3 14 BLUE

253 PLUGS**SUMMARY OF REGULATORS**

26 Senn PSR2 10 psi
230 Senn PSR2 6 psi

TOTAL OF 256 REGULATORS

NOZZLE POSITION CHART

LD NOZ UP3 4 LT BLUE	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
LD NOZ UP3 4.5 LT BLUE	27, 28, 29, 30, 31, 32
LD NOZ UP3 5 BEIGE	33, 34, 35, 36, 37, 38, 39, 40
LD NOZ UP3 5.5 BEIGE	41, 42, 43, 44, 45, 46, 47, 48, 49
LD NOZ UP3 6 GOLD	50, 51, 52, 53, 54, 55, 56, 57, 58
LD NOZ UP3 6.5 GOLD	59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70
LD NOZ UP3 7 LIME	71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81
LD NOZ UP3 7.5 LIME	82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94
LD NOZ UP3 8 LAVENDER	95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107
LD NOZ UP3 8.5 LAVENDER	108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121
LD NOZ UP3 9 GREY	122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136
LD NOZ UP3 9.5 GREY	137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152
LD NOZ UP3 10 TURQUOISE	153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168
LD NOZ UP3 10.5 TURQUOISE	169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185
LD NOZ UP3 11 YELLOW	186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204
LD NOZ UP3 11.5 YELLOW	205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 220, 221, 222
LD NOZ UP3 12 RED	218, 219, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242
LD NOZ UP3 12.5 RED	243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253
LD NOZ UP3 14 BLUE	254, 255, 256

LIBERAL IRRIGATION LLC
524 EAST PANCAKE BLVD
LIBERAL, KANSAS 67901

SEPTEMBER 29, 2025
WISH-119630
BRENT WOODS
NE 1/4 1-31-31
400 GPM @ 11 PSI

VALLEY 8000 - 30
SENNINGER UP3 LDN SPRAY NOZZLES
SENNINGER 10 & 6 PSI REGULATORS
.75 I.D. FLEXIBLE HOSE
NO ENDGUN

Rotation time at 100% = 14.29 Hours Or 857 minutes

Installation Chart Page 1

Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg		
1	PLUG PLUG				9		31	4.5	PSR206	4	PLUG PLUG				64	PLUG TOWER 3				59		120	8.5	PSR206		
2					10	PLUG			5			61	6.5	PSR206	1			91	7.5	PSR206	60	PLUG	121	8.5	PSR206	
3					11		32	4.5	PSR206	6		PLUG		62	6.5		PSR206	2	PLUG		61					
4					12	PLUG			7			62	6.5	PSR206	3			92	7.5	PSR206	62	PLUG	122	9	PSR206	
5		3	4	PSR210	13		33	5	PSR206	8	PLUG		63	6.5	PSR206	4	PLUG		63							
6		4	4	PSR210	14	PLUG				9		63	6.5	PSR206	5				64	PLUG						
7	PLUG				15		34	5	PSR206	10	PLUG		64	6.5	PSR206	6	PLUG	93	7.5	PSR206	TOWER 4					
8					16	PLUG			11		64	6.5	PSR206	7		94	7.5	PSR206	1			123	9	PSR206		
9	PLUG	5	4	PSR210	17		35	5	PSR206	12	PLUG		65	6.5	PSR206	8	PLUG	95	8	PSR206		2	PLUG	124	9	PSR206
10		6	4	PSR210	18	PLUG			13		65	6.5	PSR206	9		95	8	PSR206	3							
11	PLUG				19		36	5	PSR206	14	PLUG		66	6.5	PSR206	10	PLUG	96	8	PSR206	4	PLUG	125	9	PSR206	
12		7	4	PSR210	20	PLUG			15		66	6.5	PSR206	11		96	8	PSR206	5							
13	PLUG				21		37	5	PSR206	16	PLUG		67	6.5	PSR206	12	PLUG	97	8	PSR206	6	PLUG	126	9	PSR206	
14		8	4	PSR210	22	PLUG			17		67	6.5	PSR206	13		97	8	PSR206	7							
15	PLUG				23		38	5	PSR206	18	PLUG		68	6.5	PSR206	14	PLUG	98	8	PSR206	8	PLUG	127	9	PSR206	
16		9	4	PSR210	24	PLUG			19		68	6.5	PSR206	15		98	8	PSR206	9							
17	PLUG				25		39	5	PSR206	20	PLUG		69	6.5	PSR206	16	PLUG	99	8	PSR206	10	PLUG	128	9	PSR206	
18		10	4	PSR210	26	PLUG			21		69	6.5	PSR206	17		99	8	PSR206	11							
19	PLUG				27		40	5	PSR206	22	PLUG		70	6.5	PSR206	18	PLUG	100	8	PSR206	12	PLUG	129	9	PSR206	
20		11	4	PSR210	28	PLUG			22		70	6.5	PSR206	19		100	8	PSR206	13							
21	PLUG				29		41	5.5	PSR206	23	PLUG		71	7	PSR206	20	PLUG	101	8	PSR206	14	PLUG	130	9	PSR206	
22		12	4	PSR210	30	PLUG			25		71	7	PSR206	21		101	8	PSR206	15							
23	PLUG				31		42	5.5	PSR206	26	PLUG		72	7	PSR206	22	PLUG	102	8	PSR206	16	PLUG	131	9	PSR206	
24		13	4	PSR210	32	PLUG			27		72	7	PSR206	23		102	8	PSR206	17							
25	PLUG				33		43	5.5	PSR206	28	PLUG		73	7	PSR206	24	PLUG	103	8	PSR206	18	PLUG	132	9	PSR206	
26		14	4	PSR210	34	PLUG			29		73	7	PSR206	25		103	8	PSR206	19							
27	PLUG				35		44	5.5	PSR206	30	PLUG		74	7	PSR206	26	PLUG	104	8	PSR206	20	PLUG	133	9	PSR206	
28		15	4	PSR210	36	PLUG			31		74	7	PSR206	27		104	8	PSR206	21							
29	PLUG				37		45	5.5	PSR206	32	PLUG		75	7	PSR206	28	PLUG	105	8	PSR206	22	PLUG	134	9	PSR206	
30		16	4	PSR210	38	PLUG			33		75	7	PSR206	29		105	8	PSR206	23							
31	PLUG				39		46	5.5	PSR206	34	PLUG		76	7	PSR206	30	PLUG	106	8	PSR206	24	PLUG	135	9	PSR206	
32		17	4	PSR210	40	PLUG			35		76	7	PSR206	31		106	8	PSR206	25							
33	PLUG				41		47	5.5	PSR206	36	PLUG		77	7	PSR206	32	PLUG	107	8	PSR206	26	PLUG	136	9	PSR206	
34		18	4	PSR210	42	PLUG			37		77	7	PSR206	33		107	8	PSR206	27							
35	PLUG				43		48	5.5	PSR206	38	PLUG		78	7	PSR206	34	PLUG	108	8.5	PSR206	28	PLUG	137	9.5	PSR206	
36		19	4	PSR210	44	PLUG			39		78	7	PSR206	35		108	8.5	PSR206	29							
37	PLUG				45		49	5.5	PSR206	40	PLUG		79	7	PSR206	36	PLUG	109	8.5	PSR206	30	PLUG	138	9.5	PSR206	
38		20	4	PSR210	46	PLUG			41		79	7	PSR206	37		109	8.5	PSR206	31							
39	PLUG				47		50	6	PSR206	42	PLUG		80	7	PSR206	38	PLUG	110	8.5	PSR206	32	PLUG	139	9.5	PSR206	
40		21	4	PSR210	48	PLUG			43		80	7	PSR206	39		110	8.5	PSR206	33							
41	PLUG				49		51	6	PSR206	44	PLUG		81	7	PSR206	40	PLUG	111	8.5	PSR206	34	PLUG	140	9.5	PSR206	
42		22	4	PSR210	50	PLUG			45		81	7	PSR206	41		111	8.5	PSR206	35							
43	PLUG				51		52	6	PSR206	46	PLUG		82	7.5	PSR206	42	PLUG	112	8.5	PSR206	36	PLUG	141	9.5	PSR206	
44		23	4	PSR210	52	PLUG			47		82	7.5	PSR206	43		112	8.5	PSR206	37							
45	PLUG				53		53	6	PSR206	48	PLUG		83	7.5	PSR206	44	PLUG	113	8.5	PSR206	38	PLUG	142	9.5	PSR206	
46		24	4	PSR210	54	PLUG			49		83	7.5	PSR206	45		113	8.5	PSR206	39							
47	PLUG				55		54	6	PSR206	50	PLUG		84	7.5	PSR206	46	PLUG	114	8.5	PSR206	40	PLUG	143	9.5	PSR206	
48		25	4	PSR210	56	PLUG			51		84	7.5	PSR206	47		114	8.5	PSR206	41							
49	PLUG				57		55	6	PSR206	52	PLUG		85	7.5	PSR206	48	PLUG	115	8.5	PSR206	42	PLUG	144	9.5	PSR206	
50		26	4	PSR210	58	PLUG			53		85	7.5	PSR206	49		115	8.5	PSR206	43							
51	PLUG				59		56	6	PSR206	54	PLUG		86	7.5	PSR206	50	PLUG	116	8.5	PSR206	44	PLUG	145	9.5	PSR206	
TOWER 1					60	PLUG				55										45						
		27	4.5	PSR206	61		57	6	PSR206	56	PLUG		87	7.5	PSR206	51	PLUG	117	8.5	PSR206	46	PLUG	146	9.5	PSR206	
	PLUG				62	PLUG				57										47						
2	PLUG				63		58	6	PSR206	58	PLUG		88	7.5	PSR206	52	PLUG	118	8.5	PSR206	48	PLUG	147	9.5	PSR206	
3		28	4.5	PSR206	64	PLUG				59										49						
4	PLUG				TOWER 2		59	6.5	PSR206	60	PLUG		89	7.5	PSR206	54	PLUG	118	8.5	PSR206	50	PLUG	148	9.5	PSR206	
5		29	4.5	PSR206		1				61											51					
6	PLUG					2	PLUG			62	PLUG		90	7.5	PSR206	55	PLUG	119	8.5	PSR206	52	PLUG	149	9.5	PSR206	
7		30	4.5	PSR206	3		60	6.5	PSR206	63										53						
8	PLUG																									

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SENNINGER UP3 LDN SPRAY NOZZLES
SENNINGER 10 & 6 PSI REGULATORS
.75 I.D. FLEXIBLE HOSE
NO ENDGUN

Rotation time at 100% = 14.29 Hours Or 857 minutes

Installation Chart

Page 2

Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	
54	PLUG				49		179	10.5	PSR206	44	PLUG				39		238	12	PSR206	
55		150	9.5	PSR206	50	PLUG				45		209	11.5	PSR206	40	PLUG		239	12	
56	PLUG				51		180	10.5	PSR206	46	PLUG				41		240	12	PSR206	
57		151	9.5	PSR206	52	PLUG				47		210	11.5	PSR206	42	PLUG		241	12	
58	PLUG				53		181	10.5	PSR206	48	PLUG				43		242	12	PSR206	
59		152	9.5	PSR206	54	PLUG				49		211	11.5	PSR206	44	PLUG		243	12.5	
60	PLUG				55		182	10.5	PSR206	50	PLUG				45		244	12.5	PSR206	
61		153	10	PSR206	56	PLUG				51		212	11.5	PSR206	46	PLUG		245	12.5	
62	PLUG				57		183	10.5	PSR206	52	PLUG				47		246	12.5	PSR206	
63		154	10	PSR206	58	PLUG				53		213	11.5	PSR206	48	PLUG		247	12.5	
64	PLUG				59		184	10.5	PSR206	54	PLUG				49		248	12.5	PSR206	
TOWER 5					60	PLUG				55		214	11.5	PSR206	50	PLUG		249	12.5	
		155	10	PSR206	61		185	10.5	PSR206	56	PLUG				51		250	12.5	PSR206	
	PLUG				62	PLUG				57		215	11.5	PSR206	52	PLUG		251	12.5	
		156	10	PSR206	63		186	11	PSR206	58	PLUG				53		252	12.5	PSR206	
	PLUG				64	PLUG				59		216	11.5	PSR206	54	PLUG		253	12.5	
		157	10	PSR206	TOWER 6					60	PLUG				55		254	12.5	PSR206	
PLUG				1			187	11	PSR206	61		217	11.5	PSR206	56	PLUG		255	12.5	
	158	10	PSR206	2		PLUG				62	PLUG				57		256	12.5	PSR206	
PLUG				3			188	11	PSR206	63		218	12	PSR206	58	PLUG		257	12.5	
	159	10	PSR206	4		PLUG				64	PLUG				59		258	12.5	PSR206	
10	PLUG				5		189	11	PSR206	TOWER 7					60	PLUG		259	12.5	
11		160	10	PSR206	6	PLUG			1			219	12	PSR206	61		260	12.5	PSR206	
12	PLUG				7		190	11	PSR206		2	PLUG				62	PLUG		261	12.5
13		161	10	PSR206	8	PLUG			3			220	11.5	PSR206	63		262	12.5	PSR206	
14	PLUG				9		191	11	PSR206		4	PLUG				64	PLUG		263	12.5
15		162	10	PSR206	10	PLUG				5		221	11.5	PSR206	TOWER 8		264	12.5	PSR206	
16	PLUG				11		192	11	PSR206	6	PLUG			1			265	12.5	PSR206	
17		163	10	PSR206	12	PLUG			7		222	11.5	PSR206	2		PLUG		266	12.5	
18	PLUG				13		193	11	PSR206	8	PLUG			3			267	12.5	PSR206	
19		164	10	PSR206	14	PLUG			9		223	12	PSR206	4		PLUG		268	12.5	
20	PLUG				15		194	11	PSR206	10	PLUG			5		269	12.5	PSR206		
21		165	10	PSR206	16	PLUG				11		224	12	PSR206	6	PLUG		270	12.5	
22	PLUG				17		195	11	PSR206	12	PLUG			7		271	14	PSR206		
23		166	10	PSR206	18	PLUG				13		225	12	PSR206	8	PLUG		272	14	
24	PLUG				19		196	11	PSR206	14	PLUG			9		273	14	PSR206		
25		167	10	PSR206	20	PLUG				15		226	12	PSR206	10		274	14	PSR206	
26	PLUG				21		197	11	PSR206	16	PLUG									
27		168	10	PSR206	22	PLUG				17		227	12	PSR206						
28	PLUG				23		198	11	PSR206	18	PLUG									
29		169	10.5	PSR206	24	PLUG				19		228	12	PSR206						
30	PLUG				25		199	11	PSR206	20	PLUG									
31		170	10.5	PSR206	26	PLUG				21		229	12	PSR206						
32	PLUG				27		200	11	PSR206	22	PLUG									
33		171	10.5	PSR206	28	PLUG				23		230	12	PSR206						
34	PLUG				29		201	11	PSR206	24	PLUG									
35		172	10.5	PSR206	30	PLUG				25		231	12	PSR206						
36	PLUG				31		202	11	PSR206	26	PLUG									
37		173	10.5	PSR206	32	PLUG				27		232	12	PSR206						
38	PLUG				33		203	11	PSR206	28	PLUG									
39		174	10.5	PSR206	34	PLUG				29		233	12	PSR206						
40	PLUG				35		204	11	PSR206	30	PLUG									
41		175	10.5	PSR206	36	PLUG				31		234	12	PSR206						
42	PLUG				37		205	11.5	PSR206	32	PLUG									
43		176	10.5	PSR206	38	PLUG				33		235	12	PSR206						
44	PLUG				39		206	11.5	PSR206	34	PLUG									
45		177	10.5	PSR206	40	PLUG				35		236	12	PSR206						
46	PLUG				41		207	11.5	PSR206	36	PLUG									
47		178	10.5	PSR206	42	PLUG				37		237	12	PSR206						
48	PLUG				43		208	11.5	PSR206	38	PLUG									

PRECIPITATION CHART FOR FULL CIRCLE

WISH-119630

SEPTEMBER 29, 2025

DEALER - LIBERAL IRRIGATION LLC

IRRIGATOR - BRENT WOODS

FIELD - NE 1/4 1-31-31

TOTAL LENGTH PIPE = 1309.64 SYSTEM PRESSURE = 11 PSI
GPM UNDER PIPE = 400.70 TOTAL GPM = 400.70
ACRES UNDER PIPE = 123.70
RANGE OF ENDGUN = .00 RUN FOR MINIMUM PRESSURE
GPM OF ENDGUN = .00
ACRES UNDER ENDGUN = .00

MOTOR SIZE (HP) = .6
LOADED MOTOR RPM = 1800
CENTER GEAR BOX RATIO = 53
WHEEL GEAR BOX RATIO = 52
TIRE SIZE = 11.2 X 38
LAST TOWER SPEED (FPM) = 9.39

PRECIPITATION BASED

% TIMER BASED

PRECIPITATION INCHES	% TIMER SETTING	TIME HOURS	% TIMER SETTING	PRECIPITATION INCHES	TIME HOURS
.10	100.00	14.29 - 857(min)	100.00	.10	14.29 - 857(min)
.20	51.14	27.94	90.00	.11	15.88
.25	40.91	34.93	80.00	.13	17.86
.30	34.09	41.91	70.00	.15	20.41
.40	25.57	55.88	60.00	.17	23.82
.50	20.46	69.86	50.00	.20	28.58
.60	17.05	83.83	45.00	.23	31.76
.70	14.61	97.80	40.00	.26	35.73
.75	13.64	104.78	35.00	.29	40.83
.80	12.79	111.77	30.00	.34	47.63
.90	11.36	125.74	25.00	.41	57.16
1.00	10.23	139.71	20.00	.51	71.45
1.25	8.18	174.64	15.00	.68	95.27
1.50	6.82	209.57	10.00	1.02	142.90
1.75	5.84	244.50	5.00	2.05	285.80

CAUTION: The relationship between precipitation rate, timer setting, and hours per revolution provided above are theoretical numbers based on the data list at the top of the page. Actual precipitation rates may vary due to the following field and machine conditions: wind drift; evaporation; tire slippage, tire loaded radius; drive train efficiency; elevation changes; soil type. Due to these varying field and machine conditions the above chart should be used as a guide only.