

NORTHWEST IRRIGATION

JULY 14, 2022

WISH-105554

CUSTOMER : TERRY HOCKERSMITH

LINDSAY GEN II - 90
11 TOWER - 1980.47 FT
SYSTEM 900 GPM @ 37 PSI

LEGAL : SECTION 15-11-32

SENNINGER UP3 LDN SPRAY NOZZLES
SENNINGER 10 PSI REGULATORS
NO ENDGUN
ELEVATION 15 FT UP, 0 FT DOWN

1880 SOUTH RANGE AVENUE

COLBY, KANSAS 67701

(785)460-1880

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

NORTHWEST IRRIGATION
1880 SOUTH RANGE AVENUE
COLBY, KANSAS 67701

IRRIGATOR

TERRY HOCKERSMITH
SECTION 15-11-32

TOTAL TARGET GPM	900.00	FRICTION FACTOR USED	138	SPANS	LENGTH	PIPE I.D.
TOP OF PIVOT PRESSURE	37.00	TOTAL LENGTH	1980.47	1	181.60	6.395
NO ENDGUN		NUMBER OF TOWERS	11	5	179.00	6.395
NUMBER OF OUTLETS	277	NUMBER OF SPRINKLERS	264	1	135.00	6.395
				4	179.00	6.395
SENNINGER UP3 LDN SPRAY NOZZLES - CONCAVE 24 DEEP GROOVED PADS				OH	44.87	5.369
SENNINGER PSR-2 10 PSI SERIES REGULATORS					8.00	0.824
DROPS AVERAGE 10 FT OF .75 I.D. FLEXIBLE HOSE PLUS 24 INCH SCHEDULE 40 GALVANIZED WEIGHT						
ELEVATION IS 15 FT UP AND 0 FT DOWN						

CAUTIONS AND WARNINGS

1. Inadequate crop clearance and/or structural interference may cause poor water distribution, resulting in decreased uniformity and possible streaking.
2. Over watering at beginning of system due to practical limitations on smallest nozzle sizes available and/or allowable for proper operation.
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		2.92	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1
2		7.76	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	2
3		15.26	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	3
4	22.59	22.59	0.16	0.59	36.34	11.40	LD NOZ UP3 5 BEIGE	1	SPSR2-10	
5	7.34	29.93	0.10	0.59	36.07	11.40	LD NOZ UP3 5 BEIGE	2	SPSR2-10	
6	7.33	37.26	0.13	0.59	35.82	11.40	LD NOZ UP3 5 BEIGE	3	SPSR2-10	
7	7.50	44.76	0.15	0.59	35.57	11.40	LD NOZ UP3 5 BEIGE	4	SPSR2-10	
8	7.00	51.76	0.17	0.59	35.36	11.40	LD NOZ UP3 5 BEIGE	5	SPSR2-10	
9	7.50	59.26	0.20	0.59	35.15	11.40	LD NOZ UP3 5 BEIGE	6	SPSR2-10	
10	7.33	66.59	0.22	0.59	34.96	11.40	LD NOZ UP3 5 BEIGE	7	SPSR2-10	
11	7.34	73.93	0.25	0.59	34.79	11.40	LD NOZ UP3 5 BEIGE	8	SPSR2-10	
12	7.33	81.26	0.27	0.59	34.63	11.40	LD NOZ UP3 5 BEIGE	9	SPSR2-10	
13	7.50	88.76	0.29	0.59	34.49	11.40	LD NOZ UP3 5 BEIGE	10	SPSR2-10	
14	7.00	95.76	0.32	0.59	34.37	11.40	LD NOZ UP3 5 BEIGE	11	SPSR2-10	
15	7.50	103.26	0.35	0.59	34.26	11.40	LD NOZ UP3 5 BEIGE	12	SPSR2-10	
16	7.33	110.59	0.37	0.59	34.17	11.40	LD NOZ UP3 5 BEIGE	13	SPSR2-10	
17	7.34	117.93	0.39	0.59	34.10	11.40	LD NOZ UP3 5 BEIGE	14	SPSR2-10	
18	7.33	125.26	0.42	0.59	34.04	11.40	LD NOZ UP3 5 BEIGE	15	SPSR2-10	
19	7.50	132.76	0.44	0.59	33.99	11.40	LD NOZ UP3 5 BEIGE	16	SPSR2-10	
20	7.00	139.76	0.46	0.59	33.97	11.40	LD NOZ UP3 5 BEIGE	17	SPSR2-10	
21	7.50	147.26	0.50	0.59	33.96	11.40	LD NOZ UP3 5 BEIGE	18	SPSR2-10	
22	7.33	154.59	0.52	0.59	33.97	11.40	LD NOZ UP3 5 BEIGE	19	SPSR2-10	
23	7.34	161.93	0.54	0.59	33.99	11.40	LD NOZ UP3 5 BEIGE	20	SPSR2-10	
24	7.33	169.26	0.57	0.59	34.03	11.40	LD NOZ UP3 5 BEIGE	21	SPSR2-10	
25	7.50	176.76	0.71	0.72	33.96	11.40	LD NOZ UP3 5.5 BEIGE	22	SPSR2-10	
TOWER 1	181.60	181.60	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	4
26		182.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	
27	10.00	186.76	0.74	0.72	33.79	11.40	LD NOZ UP3 5.5 BEIGE	23	SPSR2-10	
28	7.50	194.26	0.66	0.72	33.56	11.40	LD NOZ UP3 5.5 BEIGE	24	SPSR2-10	
29	7.33	201.59	0.67	0.72	33.28	11.40	LD NOZ UP3 5.5 BEIGE	25	SPSR2-10	
30	7.34	208.93	0.70	0.72	33.01	11.40	LD NOZ UP3 5.5 BEIGE	26	SPSR2-10	
31	7.33	216.26	0.73	0.72	32.76	11.40	LD NOZ UP3 5.5 BEIGE	27	SPSR2-10	
32	7.50	223.76	0.74	0.72	32.52	11.40	LD NOZ UP3 5.5 BEIGE	28	SPSR2-10	
33	7.00	230.76	0.76	0.72	32.31	11.40	LD NOZ UP3 5.5 BEIGE	29	SPSR2-10	
34	7.50	238.26	0.80	0.85	32.11	11.40	LD NOZ UP3 6 GOLD	30	SPSR2-10	
35	7.33	245.59	0.82	0.85	31.92	11.40	LD NOZ UP3 6 GOLD	31	SPSR2-10	
36	7.34	252.93	0.84	0.85	31.75	11.40	LD NOZ UP3 6 GOLD	32	SPSR2-10	
37	7.33	260.26	0.88	0.85	31.60	11.40	LD NOZ UP3 6 GOLD	33	SPSR2-10	
38	7.50	267.76	0.88	0.85	31.46	11.40	LD NOZ UP3 6 GOLD	34	SPSR2-10	
39	7.00	274.76	0.91	0.85	31.35	11.40	LD NOZ UP3 6 GOLD	35	SPSR2-10	
40	7.50	282.26	0.95	1.00	31.24	11.40	LD NOZ UP3 6.5 GOLD	36	SPSR2-10	
41	7.33	289.59	0.97	1.00	31.15	11.40	LD NOZ UP3 6.5 GOLD	37	SPSR2-10	
42	7.34	296.93	0.99	1.00	31.08	11.40	LD NOZ UP3 6.5 GOLD	38	SPSR2-10	
43	7.33	304.26	1.03	1.00	31.03	11.40	LD NOZ UP3 6.5 GOLD	39	SPSR2-10	
44	7.50	311.76	1.03	1.00	30.99	11.40	LD NOZ UP3 6.5 GOLD	40	SPSR2-10	
45	7.00	318.76	1.05	1.00	30.97	11.40	LD NOZ UP3 6.5 GOLD	41	SPSR2-10	
46	7.50	326.26	1.10	1.16	30.97	11.40	LD NOZ UP3 7 LIME	42	SPSR2-10	
47	7.33	333.59	1.11	1.16	30.98	11.40	LD NOZ UP3 7 LIME	43	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.
48	7.34	340.93	1.14	1.16	31.01	11.40	LD NOZ UP3 7 LIME	44	SPSR2-10	
49	7.33	348.26	1.17	1.16	31.05	11.40	LD NOZ UP3 7 LIME	45	SPSR2-10	
50	7.50	355.76	1.42	1.35	30.99	11.40	LD NOZ UP3 7.5 LIME	46	SPSR2-10	
TOWER 2	179.00	360.60								
51		361.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	5
52	10.00	365.76	1.45	1.53	30.83	11.40	LD NOZ UP3 8 LAVENDER	47	SPSR2-10	
53	7.50	373.26	1.26	1.35	30.60	11.40	LD NOZ UP3 7.5 LIME	48	SPSR2-10	
54	7.33	380.59	1.27	1.35	30.33	11.40	LD NOZ UP3 7.5 LIME	49	SPSR2-10	
55	7.34	387.93	1.29	1.35	30.06	11.40	LD NOZ UP3 7.5 LIME	50	SPSR2-10	
56	7.33	395.26	1.33	1.35	29.82	11.40	LD NOZ UP3 7.5 LIME	51	SPSR2-10	
57	7.50	402.76	1.33	1.35	29.59	11.40	LD NOZ UP3 7.5 LIME	52	SPSR2-10	
58	7.00	409.76	1.35	1.35	29.39	11.40	LD NOZ UP3 7.5 LIME	53	SPSR2-10	
59	7.50	417.26	1.41	1.35	29.19	11.40	LD NOZ UP3 7.5 LIME	54	SPSR2-10	
60	7.33	424.59	1.42	1.35	29.01	11.40	LD NOZ UP3 7.5 LIME	55	SPSR2-10	
61	7.34	431.93	1.44	1.53	28.85	11.40	LD NOZ UP3 8 LAVENDER	56	SPSR2-10	
62	7.33	439.26	1.48	1.53	28.70	11.40	LD NOZ UP3 8 LAVENDER	57	SPSR2-10	
63	7.50	446.76	1.47	1.53	28.57	11.40	LD NOZ UP3 8 LAVENDER	58	SPSR2-10	
64	7.00	453.76	1.50	1.53	28.46	11.40	LD NOZ UP3 8 LAVENDER	59	SPSR2-10	
65	7.50	461.26	1.55	1.53	28.36	11.40	LD NOZ UP3 8 LAVENDER	60	SPSR2-10	
66	7.33	468.59	1.56	1.53	28.29	11.40	LD NOZ UP3 8 LAVENDER	61	SPSR2-10	
67	7.34	475.93	1.59	1.53	28.22	11.40	LD NOZ UP3 8 LAVENDER	62	SPSR2-10	
68	7.33	483.26	1.63	1.73	28.18	11.40	LD NOZ UP3 8.5 LAVENDER	63	SPSR2-10	
69	7.50	490.76	1.62	1.53	28.15	11.40	LD NOZ UP3 8 LAVENDER	64	SPSR2-10	
70	7.00	497.76	1.64	1.73	28.13	11.40	LD NOZ UP3 8.5 LAVENDER	65	SPSR2-10	
71	7.50	505.26	1.70	1.73	28.14	11.40	LD NOZ UP3 8.5 LAVENDER	66	SPSR2-10	
72	7.33	512.59	1.71	1.73	28.16	11.40	LD NOZ UP3 8.5 LAVENDER	67	SPSR2-10	
73	7.34	519.93	1.73	1.73	28.20	11.40	LD NOZ UP3 8.5 LAVENDER	68	SPSR2-10	
74	7.33	527.26	1.78	1.73	28.25	11.40	LD NOZ UP3 8.5 LAVENDER	69	SPSR2-10	
75	7.50	534.76	2.13	2.16	28.20	11.38	LD NOZ UP3 9.5 GREY	70	SPSR2-10	
TOWER 3	179.00	539.60								
76		540.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	6
77	10.00	544.76	2.16	2.16	28.05	11.38	LD NOZ UP3 9.5 GREY	71	SPSR2-10	
78	7.50	552.26	1.86	1.93	27.83	11.40	LD NOZ UP3 9 GREY	72	SPSR2-10	
79	7.33	559.59	1.87	1.93	27.57	11.40	LD NOZ UP3 9 GREY	73	SPSR2-10	
80	7.34	566.93	1.89	1.93	27.31	11.40	LD NOZ UP3 9 GREY	74	SPSR2-10	
81	7.33	574.26	1.94	1.93	27.08	11.40	LD NOZ UP3 9 GREY	75	SPSR2-10	
82	7.50	581.76	1.92	1.93	26.86	11.40	LD NOZ UP3 9 GREY	76	SPSR2-10	
83	7.00	588.76	1.94	1.93	26.66	11.40	LD NOZ UP3 9 GREY	77	SPSR2-10	
84	7.50	596.26	2.01	1.93	26.48	11.40	LD NOZ UP3 9 GREY	78	SPSR2-10	
85	7.33	603.59	2.01	1.93	26.31	11.40	LD NOZ UP3 9 GREY	79	SPSR2-10	
86	7.34	610.93	2.04	1.93	26.16	11.40	LD NOZ UP3 9 GREY	80	SPSR2-10	
87	7.33	618.26	2.08	2.16	26.02	11.38	LD NOZ UP3 9.5 GREY	81	SPSR2-10	
88	7.50	625.76	2.06	2.16	25.90	11.38	LD NOZ UP3 9.5 GREY	82	SPSR2-10	
89	7.00	632.76	2.09	2.16	25.80	11.38	LD NOZ UP3 9.5 GREY	83	SPSR2-10	
90	7.50	640.26	2.16	2.16	25.72	11.38	LD NOZ UP3 9.5 GREY	84	SPSR2-10	
91	7.33	647.59	2.16	2.16	25.65	11.38	LD NOZ UP3 9.5 GREY	85	SPSR2-10	
92	7.34	654.93	2.18	2.16	25.60	11.38	LD NOZ UP3 9.5 GREY	86	SPSR2-10	
93	7.33	662.26	2.23	2.16	25.56	11.38	LD NOZ UP3 9.5 GREY	87	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.
94	7.50	669.76	2.21	2.16	25.54	11.38	LD NOZ UP3 9.5 GREY	88	SPSR2-10	
95	7.00	676.76	2.23	2.16	25.54	11.38	LD NOZ UP3 9.5 GREY	89	SPSR2-10	
96	7.50	684.26	2.31	2.39	25.56	11.36	LD NOZ UP3 10 TURQUOISE	90	SPSR2-10	
97	7.33	691.59	2.31	2.39	25.59	11.36	LD NOZ UP3 10 TURQUOISE	91	SPSR2-10	
98	7.34	698.93	2.33	2.39	25.64	11.36	LD NOZ UP3 10 TURQUOISE	92	SPSR2-10	
99	7.33	706.26	2.38	2.39	25.71	11.36	LD NOZ UP3 10 TURQUOISE	93	SPSR2-10	
100	7.50	713.76	2.84	2.89	25.67	11.31	LD NOZ UP3 11 YELLOW	94	SPSR2-10	
TOWER 4	179.00	718.60								
101		719.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	7
102	10.00	723.76	2.88	2.89	25.53	11.31	LD NOZ UP3 11 YELLOW	95	SPSR2-10	
103	7.50	731.26	2.46	2.39	25.33	11.36	LD NOZ UP3 10 TURQUOISE	96	SPSR2-10	
104	7.33	738.59	2.46	2.39	25.08	11.36	LD NOZ UP3 10 TURQUOISE	97	SPSR2-10	
105	7.34	745.93	2.49	2.39	24.84	11.36	LD NOZ UP3 10 TURQUOISE	98	SPSR2-10	
106	7.33	753.26	2.54	2.63	24.61	11.34	LD NOZ UP3 10.5 TURQUOISE	99	SPSR2-10	
107	7.50	760.76	2.51	2.39	24.40	11.36	LD NOZ UP3 10 TURQUOISE	100	SPSR2-10	
108	7.00	767.76	2.53	2.63	24.22	11.34	LD NOZ UP3 10.5 TURQUOISE	101	SPSR2-10	
109	7.50	775.26	2.61	2.63	24.05	11.34	LD NOZ UP3 10.5 TURQUOISE	102	SPSR2-10	
110	7.33	782.59	2.61	2.63	23.89	11.34	LD NOZ UP3 10.5 TURQUOISE	103	SPSR2-10	
111	7.34	789.93	2.63	2.63	23.76	11.34	LD NOZ UP3 10.5 TURQUOISE	104	SPSR2-10	
112	7.33	797.26	2.69	2.63	23.63	11.34	LD NOZ UP3 10.5 TURQUOISE	105	SPSR2-10	
113	7.50	804.76	2.65	2.63	23.53	11.34	LD NOZ UP3 10.5 TURQUOISE	106	SPSR2-10	
114	7.00	811.76	2.68	2.63	23.44	11.34	LD NOZ UP3 10.5 TURQUOISE	107	SPSR2-10	
115	7.50	819.26	2.76	2.89	23.37	11.31	LD NOZ UP3 11 YELLOW	108	SPSR2-10	
116	7.33	826.59	2.76	2.63	23.32	11.34	LD NOZ UP3 10.5 TURQUOISE	109	SPSR2-10	
117	7.34	833.93	2.78	2.89	23.28	11.31	LD NOZ UP3 11 YELLOW	110	SPSR2-10	
118	7.33	841.26	2.84	2.89	23.26	11.31	LD NOZ UP3 11 YELLOW	111	SPSR2-10	
119	7.50	848.76	2.80	2.89	23.25	11.31	LD NOZ UP3 11 YELLOW	112	SPSR2-10	
120	7.00	855.76	2.82	2.89	23.27	11.31	LD NOZ UP3 11 YELLOW	113	SPSR2-10	
121	7.50	863.26	2.91	2.89	23.30	11.31	LD NOZ UP3 11 YELLOW	114	SPSR2-10	
122	7.33	870.59	2.90	2.89	23.34	11.31	LD NOZ UP3 11 YELLOW	115	SPSR2-10	
123	7.34	877.93	2.93	2.89	23.41	11.31	LD NOZ UP3 11 YELLOW	116	SPSR2-10	
124	7.33	885.26	2.98	2.89	23.49	11.31	LD NOZ UP3 11 YELLOW	117	SPSR2-10	
125	7.50	892.76	3.55	3.44	23.46	11.26	LD NOZ UP3 12 RED	118	SPSR2-10	
TOWER 5	179.00	897.60								
126		898.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	8
127	10.00	902.76	3.59	3.73	23.35	11.23	LD NOZ UP3 12.5 RED	119	SPSR2-10	
128	7.50	910.26	3.07	3.15	23.16	11.28	LD NOZ UP3 11.5 YELLOW	120	SPSR2-10	
129	7.33	917.59	3.06	3.15	22.92	11.28	LD NOZ UP3 11.5 YELLOW	121	SPSR2-10	
130	7.34	924.93	3.08	3.15	22.70	11.28	LD NOZ UP3 11.5 YELLOW	122	SPSR2-10	
131	7.33	932.26	3.14	3.15	22.49	11.28	LD NOZ UP3 11.5 YELLOW	123	SPSR2-10	
132	7.50	939.76	3.10	3.15	22.30	11.28	LD NOZ UP3 11.5 YELLOW	124	SPSR2-10	
133	7.00	946.76	3.12	3.15	22.13	11.28	LD NOZ UP3 11.5 YELLOW	125	SPSR2-10	
134	7.50	954.26	3.21	3.15	21.97	11.28	LD NOZ UP3 11.5 YELLOW	126	SPSR2-10	
135	7.33	961.59	3.21	3.15	21.83	11.28	LD NOZ UP3 11.5 YELLOW	127	SPSR2-10	
136	7.34	968.93	3.23	3.16	21.71	11.28	LD NOZ UP3 11.5 YELLOW	128	SPSR2-10	
137	7.33	976.26	3.29	3.16	21.60	11.28	LD NOZ UP3 11.5 YELLOW	129	SPSR2-10	
138	7.50	983.76	3.24	3.16	21.51	11.28	LD NOZ UP3 11.5 YELLOW	130	SPSR2-10	
139	7.00	990.76	3.27	3.16	21.44	11.28	LD NOZ UP3 11.5 YELLOW	131	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.
140	7.50	998.26	3.37	3.44	21.39	11.26	LD NOZ UP3 12 RED	132	SPSR2-10	
141	7.33	1005.59	3.35	3.44	21.35	11.26	LD NOZ UP3 12 RED	133	SPSR2-10	
142	7.34	1012.93	3.38	3.44	21.33	11.26	LD NOZ UP3 12 RED	134	SPSR2-10	
143	7.33	1020.26	3.44	3.44	21.32	11.26	LD NOZ UP3 12 RED	135	SPSR2-10	
144	7.50	1027.76	3.39	3.44	21.33	11.26	LD NOZ UP3 12 RED	136	SPSR2-10	
145	7.00	1034.76	3.41	3.44	21.36	11.26	LD NOZ UP3 12 RED	137	SPSR2-10	
146	7.50	1042.26	3.51	3.44	21.41	11.26	LD NOZ UP3 12 RED	138	SPSR2-10	
147	7.33	1049.59	3.50	3.44	21.47	11.26	LD NOZ UP3 12 RED	139	SPSR2-10	
148	7.34	1056.93	3.52	3.44	21.55	11.26	LD NOZ UP3 12 RED	140	SPSR2-10	
149	7.33	1064.26	3.59	3.73	21.65	11.23	LD NOZ UP3 12.5 RED	141	SPSR2-10	
150	7.50	1071.76	4.27	4.34	21.64	11.17	LD NOZ UP3 13.5 WHITE	142	SPSR2-10	
TOWER 6	179.00	1076.60								
151		1077.59	-	-	-	-	-	-	-	9
152	10.00	1081.76	4.30	4.34	21.55	11.17	LD NOZ UP3 13.5 WHITE	143	SPSR2-10	
153	7.50	1089.26	3.67	3.73	21.31	11.23	LD NOZ UP3 12.5 RED	144	SPSR2-10	
154	7.33	1096.59	3.66	3.73	21.09	11.23	LD NOZ UP3 12.5 RED	145	SPSR2-10	
155	7.34	1103.93	3.68	3.73	20.88	11.23	LD NOZ UP3 12.5 RED	146	SPSR2-10	
156	7.33	1111.26	3.74	3.73	20.71	11.23	LD NOZ UP3 12.5 RED	147	SPSR2-10	
157	7.50	1118.76	3.68	3.73	20.55	11.23	LD NOZ UP3 12.5 RED	148	SPSR2-10	
158	7.00	1125.76	3.71	3.73	20.42	11.23	LD NOZ UP3 12.5 RED	149	SPSR2-10	
159	7.50	1133.26	3.82	3.73	20.32	11.23	LD NOZ UP3 12.5 RED	150	SPSR2-10	
160	7.33	1140.59	3.80	3.73	20.24	11.23	LD NOZ UP3 12.5 RED	151	SPSR2-10	
161	7.34	1147.93	3.83	3.73	20.18	11.23	LD NOZ UP3 12.5 RED	152	SPSR2-10	
162	7.33	1155.26	3.89	4.03	20.15	11.20	LD NOZ UP3 13 WHITE	153	SPSR2-10	
163	7.50	1162.76	3.83	3.73	20.14	11.23	LD NOZ UP3 12.5 RED	154	SPSR2-10	
164	7.00	1169.76	3.85	3.73	20.15	11.23	LD NOZ UP3 12.5 RED	155	SPSR2-10	
165	7.50	1177.26	3.97	4.03	20.19	11.20	LD NOZ UP3 13 WHITE	156	SPSR2-10	
166	7.33	1184.59	3.95	4.03	20.26	11.20	LD NOZ UP3 13 WHITE	157	SPSR2-10	
167	7.34	1191.93	3.97	4.03	20.35	11.20	LD NOZ UP3 13 WHITE	158	SPSR2-10	
168	7.33	1199.26	4.04	4.03	20.46	11.20	LD NOZ UP3 13 WHITE	159	SPSR2-10	
169	7.50	1206.76	4.80	4.66	20.53	11.13	LD NOZ UP3 14 BLUE	160	SPSR2-10	
TOWER 7	135.00	1211.60								
170		1212.59	-	-	-	-	-	-	-	10
171	10.00	1216.76	4.84	4.99	20.46	11.10	LD NOZ UP3 14.5 BLUE	161	SPSR2-10	
172	7.50	1224.26	4.12	4.03	20.30	11.20	LD NOZ UP3 13 WHITE	162	SPSR2-10	
173	7.33	1231.59	4.11	4.03	20.09	11.20	LD NOZ UP3 13 WHITE	163	SPSR2-10	
174	7.34	1238.93	4.13	4.03	19.90	11.20	LD NOZ UP3 13 WHITE	164	SPSR2-10	
175	7.33	1246.26	4.20	4.34	19.72	11.17	LD NOZ UP3 13.5 WHITE	165	SPSR2-10	
176	7.50	1253.76	4.13	4.03	19.56	11.20	LD NOZ UP3 13 WHITE	166	SPSR2-10	
177	7.00	1260.76	4.16	4.03	19.42	11.20	LD NOZ UP3 13 WHITE	167	SPSR2-10	
178	7.50	1268.26	4.28	4.34	19.29	11.17	LD NOZ UP3 13.5 WHITE	168	SPSR2-10	
179	7.33	1275.59	4.25	4.34	19.18	11.17	LD NOZ UP3 13.5 WHITE	169	SPSR2-10	
180	7.34	1282.93	4.28	4.34	19.09	11.17	LD NOZ UP3 13.5 WHITE	170	SPSR2-10	
181	7.33	1290.26	4.35	4.34	19.01	11.17	LD NOZ UP3 13.5 WHITE	171	SPSR2-10	
182	7.50	1297.76	4.28	4.34	18.95	11.17	LD NOZ UP3 13.5 WHITE	172	SPSR2-10	
183	7.00	1304.76	4.30	4.34	18.91	11.17	LD NOZ UP3 13.5 WHITE	173	SPSR2-10	
184	7.50	1312.26	4.42	4.34	18.89	11.17	LD NOZ UP3 13.5 WHITE	174	SPSR2-10	
185	7.33	1319.59	4.40	4.34	18.88	11.17	LD NOZ UP3 13.5 WHITE	175	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.
186	7.34	1326.93	4.42	4.34	18.89	11.17	LD NOZ UP3 13.5 WHITE	176	SPSR2-10	
187	7.33	1334.26	4.50	4.34	18.91	11.17	LD NOZ UP3 13.5 WHITE	177	SPSR2-10	
188	7.50	1341.76	4.42	4.34	18.95	11.17	LD NOZ UP3 13.5 WHITE	178	SPSR2-10	
189	7.00	1348.76	4.45	4.34	19.01	11.17	LD NOZ UP3 13.5 WHITE	179	SPSR2-10	
190	7.50	1356.26	4.57	4.66	19.09	11.13	LD NOZ UP3 14 BLUE	180	SPSR2-10	
191	7.33	1363.59	4.55	4.66	19.18	11.13	LD NOZ UP3 14 BLUE	181	SPSR2-10	
192	7.34	1370.93	4.57	4.66	19.29	11.13	LD NOZ UP3 14 BLUE	182	SPSR2-10	
193	7.33	1378.26	4.65	4.66	19.42	11.13	LD NOZ UP3 14 BLUE	183	SPSR2-10	
194	7.50	1385.76	5.52	5.68	19.44	10.98	LD NOZ UP3 15.5 DK BROWN	184	SPSR2-10	
TOWER 8	179.00	1390.60								
195		1391.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	11
196	10.00	1395.76	5.55	5.68	19.39	10.98	LD NOZ UP3 15.5 DK BROWN	185	SPSR2-10	
197	7.50	1403.26	4.73	4.66	19.25	11.13	LD NOZ UP3 14 BLUE	186	SPSR2-10	
198	7.33	1410.59	4.70	4.66	19.06	11.13	LD NOZ UP3 14 BLUE	187	SPSR2-10	
199	7.34	1417.93	4.73	4.66	18.88	11.13	LD NOZ UP3 14 BLUE	188	SPSR2-10	
200	7.33	1425.26	4.80	4.66	18.72	11.13	LD NOZ UP3 14 BLUE	189	SPSR2-10	
201	7.50	1432.76	4.72	4.66	18.57	11.13	LD NOZ UP3 14 BLUE	190	SPSR2-10	
202	7.00	1439.76	4.75	4.66	18.45	11.13	LD NOZ UP3 14 BLUE	191	SPSR2-10	
203	7.50	1447.26	4.88	4.99	18.34	11.10	LD NOZ UP3 14.5 BLUE	192	SPSR2-10	
204	7.33	1454.59	4.85	4.99	18.24	11.10	LD NOZ UP3 14.5 BLUE	193	SPSR2-10	
205	7.34	1461.93	4.87	4.99	18.17	11.10	LD NOZ UP3 14.5 BLUE	194	SPSR2-10	
206	7.33	1469.26	4.95	4.99	18.11	11.10	LD NOZ UP3 14.5 BLUE	195	SPSR2-10	
207	7.50	1476.76	4.86	4.99	18.07	11.10	LD NOZ UP3 14.5 BLUE	196	SPSR2-10	
208	7.00	1483.76	4.89	4.99	18.04	11.10	LD NOZ UP3 14.5 BLUE	197	SPSR2-10	
209	7.50	1491.26	5.02	4.99	18.03	11.10	LD NOZ UP3 14.5 BLUE	198	SPSR2-10	
210	7.33	1498.59	4.99	4.99	18.04	11.10	LD NOZ UP3 14.5 BLUE	199	SPSR2-10	
211	7.34	1505.93	5.02	4.99	18.06	11.10	LD NOZ UP3 14.5 BLUE	200	SPSR2-10	
212	7.33	1513.26	5.10	4.99	18.11	11.10	LD NOZ UP3 14.5 BLUE	201	SPSR2-10	
213	7.50	1520.76	5.01	4.99	18.17	11.10	LD NOZ UP3 14.5 BLUE	202	SPSR2-10	
214	7.00	1527.76	5.03	4.99	18.24	11.10	LD NOZ UP3 14.5 BLUE	203	SPSR2-10	
215	7.50	1535.26	5.17	5.34	18.33	11.04	LD NOZ UP3 15 DK BROWN	204	SPSR2-10	
216	7.33	1542.59	5.14	4.99	18.44	11.10	LD NOZ UP3 14.5 BLUE	205	SPSR2-10	
217	7.34	1549.93	5.16	4.99	18.57	11.10	LD NOZ UP3 14.5 BLUE	206	SPSR2-10	
218	7.33	1557.26	5.25	5.34	18.71	11.04	LD NOZ UP3 15 DK BROWN	207	SPSR2-10	
219	7.50	1564.76	6.22	6.40	18.75	10.85	LD NOZ UP3 16.5 ORANGE	208	SPSR2-10	
TOWER 9	179.00	1569.60								
220		1570.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	12
221	10.00	1574.76	6.26	6.40	18.72	10.85	LD NOZ UP3 16.5 ORANGE	209	SPSR2-10	
222	7.50	1582.26	5.33	5.34	18.59	11.04	LD NOZ UP3 15 DK BROWN	210	SPSR2-10	
223	7.33	1589.59	5.29	5.34	18.42	11.04	LD NOZ UP3 15 DK BROWN	211	SPSR2-10	
224	7.34	1596.93	5.32	5.34	18.25	11.04	LD NOZ UP3 15 DK BROWN	212	SPSR2-10	
225	7.33	1604.26	5.40	5.34	18.11	11.04	LD NOZ UP3 15 DK BROWN	213	SPSR2-10	
226	7.50	1611.76	5.30	5.34	17.98	11.04	LD NOZ UP3 15 DK BROWN	214	SPSR2-10	
227	7.00	1618.76	5.33	5.34	17.87	11.04	LD NOZ UP3 15 DK BROWN	215	SPSR2-10	
228	7.50	1626.26	5.47	5.34	17.77	11.04	LD NOZ UP3 15 DK BROWN	216	SPSR2-10	
229	7.33	1633.59	5.44	5.34	17.70	11.04	LD NOZ UP3 15 DK BROWN	217	SPSR2-10	
230	7.34	1640.93	5.47	5.34	17.63	11.04	LD NOZ UP3 15 DK BROWN	218	SPSR2-10	
231	7.33	1648.26	5.55	5.68	17.59	10.98	LD NOZ UP3 15.5 DK BROWN	219	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.
232		7.50	1655.76	5.45	5.34	17.56	11.04 LD NOZ UP3 15 DK BROWN	220	SPSR2-10	
233		7.00	1662.76	5.48	5.34	17.55	11.04 LD NOZ UP3 15 DK BROWN	221	SPSR2-10	
234		7.50	1670.26	5.63	5.68	17.55	10.98 LD NOZ UP3 15.5 DK BROWN	222	SPSR2-10	
235		7.33	1677.59	5.59	5.68	17.58	10.98 LD NOZ UP3 15.5 DK BROWN	223	SPSR2-10	
236		7.34	1684.93	5.62	5.68	17.61	10.98 LD NOZ UP3 15.5 DK BROWN	224	SPSR2-10	
237		7.33	1692.26	5.70	5.68	17.67	10.98 LD NOZ UP3 15.5 DK BROWN	225	SPSR2-10	
238		7.50	1699.76	5.60	5.68	17.74	10.98 LD NOZ UP3 15.5 DK BROWN	226	SPSR2-10	
239		7.00	1706.76	5.62	5.68	17.83	10.98 LD NOZ UP3 15.5 DK BROWN	227	SPSR2-10	
240		7.50	1714.26	5.77	5.68	17.94	10.98 LD NOZ UP3 15.5 DK BROWN	228	SPSR2-10	
241		7.33	1721.59	5.74	5.68	18.06	10.98 LD NOZ UP3 15.5 DK BROWN	229	SPSR2-10	
242		7.34	1728.93	5.76	5.68	18.20	10.98 LD NOZ UP3 15.5 DK BROWN	230	SPSR2-10	
243		7.33	1736.26	5.85	5.68	18.35	10.98 LD NOZ UP3 15.5 DK BROWN	231	SPSR2-10	
244		7.50	1743.76	6.94	6.78	18.40	10.78 LD NOZ UP3 17 DK GREEN	232	SPSR2-10	
TOWER 10		179.00	1748.60							
245			1749.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	13
246		10.00	1753.76	6.98	7.16	18.39	10.71 LD NOZ UP3 17.5 DK GREEN	233	SPSR2-10	
247		7.50	1761.26	5.94	6.04	18.28	10.91 LD NOZ UP3 16 ORANGE	234	SPSR2-10	
248		7.33	1768.59	5.90	6.04	18.11	10.91 LD NOZ UP3 16 ORANGE	235	SPSR2-10	
249		7.34	1775.93	5.92	6.04	17.96	10.91 LD NOZ UP3 16 ORANGE	236	SPSR2-10	
250		7.33	1783.26	6.00	6.04	17.83	10.91 LD NOZ UP3 16 ORANGE	237	SPSR2-10	
251		7.50	1790.76	5.89	6.04	17.71	10.91 LD NOZ UP3 16 ORANGE	238	SPSR2-10	
252		7.00	1797.76	5.91	6.04	17.62	10.91 LD NOZ UP3 16 ORANGE	239	SPSR2-10	
253		7.50	1805.26	6.07	6.04	17.53	10.91 LD NOZ UP3 16 ORANGE	240	SPSR2-10	
254		7.33	1812.59	6.03	6.04	17.46	10.91 LD NOZ UP3 16 ORANGE	241	SPSR2-10	
255		7.34	1819.93	6.05	6.04	17.41	10.91 LD NOZ UP3 16 ORANGE	242	SPSR2-10	
256		7.33	1827.26	6.14	6.04	17.38	10.91 LD NOZ UP3 16 ORANGE	243	SPSR2-10	
257		7.50	1834.76	6.03	6.04	17.36	10.91 LD NOZ UP3 16 ORANGE	244	SPSR2-10	
258		7.00	1841.76	6.06	6.04	17.36	10.91 LD NOZ UP3 16 ORANGE	245	SPSR2-10	
259		7.50	1849.26	6.22	6.04	17.37	10.91 LD NOZ UP3 16 ORANGE	246	SPSR2-10	
260		7.33	1856.59	6.19	6.04	17.41	10.91 LD NOZ UP3 16 ORANGE	247	SPSR2-10	
261		7.34	1863.93	6.22	6.04	17.45	10.91 LD NOZ UP3 16 ORANGE	248	SPSR2-10	
262		7.33	1871.26	6.32	6.40	17.52	10.85 LD NOZ UP3 16.5 ORANGE	249	SPSR2-10	
263		7.50	1878.76	6.20	6.04	17.60	10.91 LD NOZ UP3 16 ORANGE	250	SPSR2-10	
264		7.00	1885.76	6.24	6.40	17.70	10.85 LD NOZ UP3 16.5 ORANGE	251	SPSR2-10	
265		7.50	1893.26	6.39	6.41	17.81	10.85 LD NOZ UP3 16.5 ORANGE	252	SPSR2-10	
266		7.33	1900.59	6.35	6.41	17.94	10.85 LD NOZ UP3 16.5 ORANGE	253	SPSR2-10	
267		7.34	1907.93	6.37	6.41	18.09	10.85 LD NOZ UP3 16.5 ORANGE	254	SPSR2-10	
268		7.33	1915.26	6.46	6.41	18.25	10.85 LD NOZ UP3 16.5 ORANGE	255	SPSR2-10	
269		7.50	1922.76	7.31	7.16	18.31	10.71 LD NOZ UP3 17.5 DK GREEN	256	SPSR2-10	
TOWER 11		179.00	1927.60							
							PIPE ID CHANGES FROM 6.395 TO 5.369			
270		9.21	1931.97	7.37	7.55	18.27	10.64 LD NOZ UP3 18 PURPLE	257	SPSR2-10	
271		7.50	1939.47	6.53	6.41	18.21	10.85 LD NOZ UP3 16.5 ORANGE	258	SPSR2-10	
272		7.33	1946.80	6.51	6.41	18.16	10.85 LD NOZ UP3 16.5 ORANGE	259	SPSR2-10	
273		7.34	1954.14	6.56	6.41	18.10	10.85 LD NOZ UP3 16.5 ORANGE	260	SPSR2-10	
274		7.33	1961.47	6.70	6.78	18.04	10.78 LD NOZ UP3 17 DK GREEN	261	SPSR2-10	
275		7.50	1968.97	6.77	6.78	17.98	10.78 LD NOZ UP3 17 DK GREEN	262	SPSR2-10	
							PIPE ID CHANGES FROM 5.369 TO 0.824			

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.
276	7.50	1976.47	5.11	4.99	17.38	11.10	LD NOZ UP3 14.5 BLUE	263	SPSR2-10	
277	4.00	1980.47	4.96	4.99	17.29	11.10	LD NOZ UP3 14.5 BLUE	264	SPSR2-10	
OVERHANG	52.87	1980.47								

TOTAL GPM = 900.65

GPA = 3.18

MINIMUM RECOMMENDED REGULATOR INLET PRESSURE IS 15.00 PSI
 WITH GRADUATED ELEVATION OF 15.00 FT THE INLET PRESSURE IS 15.23 PSI FOR SPRINKLER 264
 THIS POSITION IS THE CLOSEST TO THE MINIMUM RECOMMENDED INLET PRESSURE

HYDRAULICS SUMMARY

TOWER NUMBER	ACRES UNDER SPAN	GPM NEED	ACTUAL GPM	PERCENT DEVIATION	GPM PER ACRE	AVERAGE IN. PER HR DELIVERED UNDER SPAN	AVERAGE IN. DELIVERED FOR REVOLUTION TIME		
							36 HR	48 HR	60 HR
1	2.38	7.56	13.04	72%	5.48	0.012	0.44	0.58	0.73
2	7.00	22.26	22.19	0%	3.17	0.007	0.25	0.34	0.42
3	11.62	36.95	36.98	0%	3.18	0.007	0.25	0.34	0.42
4	16.24	51.65	51.38	-1%	3.16	0.007	0.25	0.34	0.42
5	20.86	66.35	65.65	-1%	3.15	0.007	0.25	0.33	0.42
6	25.49	81.04	80.51	-1%	3.16	0.007	0.25	0.34	0.42
7	22.28	70.84	70.27	-1%	3.15	0.007	0.25	0.33	0.42
8	33.59	106.82	105.85	-1%	3.15	0.007	0.25	0.33	0.42
9	38.22	121.52	120.65	-1%	3.16	0.007	0.25	0.33	0.42
10	42.84	136.21	134.45	-1%	3.14	0.007	0.25	0.33	0.42
11	47.46	150.91	149.67	-1%	3.15	0.007	0.25	0.33	0.42
OVERHANG	14.90	47.38	50.03	6%	3.36	0.007	0.27	0.36	0.45
TOTAL	282.88	899.50	900.65		3.18				

SUMMARY OF SPRINKLERS

21 LD NOZ UP3 5 BEIGE
8 LD NOZ UP3 5.5 BEIGE
6 LD NOZ UP3 6 GOLD
6 LD NOZ UP3 6.5 GOLD
4 LD NOZ UP3 7 LIME
9 LD NOZ UP3 7.5 LIME
9 LD NOZ UP3 8 LAVENDER
6 LD NOZ UP3 8.5 LAVENDER
9 LD NOZ UP3 9 GREY
11 LD NOZ UP3 9.5 GREY
8 LD NOZ UP3 10 TURQUOISE
9 LD NOZ UP3 10.5 TURQUOISE
11 LD NOZ UP3 11 YELLOW
12 LD NOZ UP3 11.5 YELLOW
10 LD NOZ UP3 12 RED
13 LD NOZ UP3 12.5 RED
10 LD NOZ UP3 13 WHITE
15 LD NOZ UP3 13.5 WHITE
11 LD NOZ UP3 14 BLUE
17 LD NOZ UP3 14.5 BLUE
13 LD NOZ UP3 15 DK BROWN
13 LD NOZ UP3 15.5 DK BROWN
16 LD NOZ UP3 16 ORANGE
11 LD NOZ UP3 16.5 ORANGE
3 LD NOZ UP3 17 DK GREEN
2 LD NOZ UP3 17.5 DK GREEN
1 LD NOZ UP3 18 PURPLE

13 PLUGS**SUMMARY OF REGULATORS**

264 SPSR2-10

TOTAL OF 264 REGULATORS

NOZZLE POSITION CHART

LD NOZ UP3 5 BEIGE	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21
LD NOZ UP3 5.5 BEIGE	22, 23, 24, 25, 26, 27, 28, 29
LD NOZ UP3 6 GOLD	30, 31, 32, 33, 34, 35
LD NOZ UP3 6.5 GOLD	36, 37, 38, 39, 40, 41
LD NOZ UP3 7 LIME	42, 43, 44, 45
LD NOZ UP3 7.5 LIME	46, 48, 49, 50, 51, 52, 53, 54, 55
LD NOZ UP3 8 LAVENDER	47, 56, 57, 58, 59, 60, 61, 62, 64
LD NOZ UP3 8.5 LAVENDER	63, 65, 66, 67, 68, 69
LD NOZ UP3 9 GREY	72, 73, 74, 75, 76, 77, 78, 79, 80
LD NOZ UP3 9.5 GREY	70, 71, 81, 82, 83, 84, 85, 86, 87, 88, 89
LD NOZ UP3 10 TURQUOISE	90, 91, 92, 93, 96, 97, 98, 100
LD NOZ UP3 10.5 TURQUOISE	99, 101, 102, 103, 104, 105, 106, 107, 109
LD NOZ UP3 11 YELLOW	94, 95, 108, 110, 111, 112, 113, 114, 115, 116, 117
LD NOZ UP3 11.5 YELLOW	120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131
LD NOZ UP3 12 RED	118, 132, 133, 134, 135, 136, 137, 138, 139, 140
LD NOZ UP3 12.5 RED	119, 141, 144, 145, 146, 147, 148, 149, 150, 151, 152, 154, 155
LD NOZ UP3 13 WHITE	153, 156, 157, 158, 159, 162, 163, 164, 166, 167
LD NOZ UP3 13.5 WHITE	142, 143, 165, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179
LD NOZ UP3 14 BLUE	160, 180, 181, 182, 183, 186, 187, 188, 189, 190, 191
LD NOZ UP3 14.5 BLUE	161, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 205, 206, 263, 264
LD NOZ UP3 15 DK BROWN	204, 207, 210, 211, 212, 213, 214, 215, 216, 217, 218, 220, 221
LD NOZ UP3 15.5 DK BROWN	184, 185, 219, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231
LD NOZ UP3 16 ORANGE	234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 250
LD NOZ UP3 16.5 ORANGE	208, 209, 249, 251, 252, 253, 254, 255, 258, 259, 260
LD NOZ UP3 17 DK GREEN	232, 261, 262
LD NOZ UP3 17.5 DK GREEN	233, 256
LD NOZ UP3 18 PURPLE	257

NORTHWEST IRRIGATION

1880 SOUTH RANGE AVENUE

COLBY, KANSAS 67701

JULY 14, 2022

WISH-105554

TERRY HOCKERSMITH

SECTION 15-11-32

900 GPM @ 37 PSI

Rotation time at 100% = 18.19 Hours Or 1091 minutes

LINDSAY GEN II - 90
 SENNINGER UP3 LDN SPRAY NOZZLES
 SENNINGER 10 PSI REGULATORS
 .75 I.D. FLEXIBLE HOSE
 NO ENDGUN

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				9		54	7.5	PSR210	17		110	11	PSR210	5		164	13	PSR210	13		220	15	PSR210	
2	PLUG				10		55	7.5	PSR210	18		111	11	PSR210	6		165	13.5	PSR210	14		221	15	PSR210	
3	PLUG				11		56	8	PSR210	19		112	11	PSR210	7		166	13	PSR210	15		222	15.5	PSR210	
4	1	5	PSR210		12		57	8	PSR210	20		113	11	PSR210	8		167	13	PSR210	16		223	15.5	PSR210	
5	2	5.5	PSR210		13		58	8	PSR210	21		114	11	PSR210	9		168	13.5	PSR210	17		224	15.5	PSR210	
6	3	5.5	PSR210		14		59	8	PSR210	22		115	11	PSR210	10		169	13.5	PSR210	18		225	15.5	PSR210	
7	4	5	PSR210		15		60	8	PSR210	23		116	11	PSR210	11		170	13.5	PSR210	19		226	15.5	PSR210	
8	5	5.5	PSR210		16		61	8	PSR210	24		117	11	PSR210	12		171	13.5	PSR210	20		227	15.5	PSR210	
9	6	5.5	PSR210		17		62	8	PSR210	25		118	12	PSR210	13		172	13.5	PSR210	21		228	15.5	PSR210	
10	7	5.5	PSR210		18		63	8.5	PSR210						14		173	13.5	PSR210	22		229	15.5	PSR210	
11	8	5	PSR210		19		64	8	PSR210	1		119	12.5	PSR210	16		174	13.5	PSR210	23		230	15.5	PSR210	
12	9	5	PSR210		20		65	8.5	PSR210	2		120	11.5	PSR210	17		175	13.5	PSR210	24		231	15.5	PSR210	
13	10	5	PSR210		21		66	8.5	PSR210	3		121	11.5	PSR210	18		176	13.5	PSR210	25		232	17	PSR210	
14	11	5.5	PSR210		22		67	8.5	PSR210	4		122	11.5	PSR210	19		177	13.5	PSR210	1		233	17.5	PSR210	
15	12	5	PSR210		23		68	8.5	PSR210	5		123	11.5	PSR210	20		178	13.5	PSR210	2		234	16	PSR210	
16	13	5.5	PSR210		24		69	8.5	PSR210	6		124	11.5	PSR210	21		179	13.5	PSR210	3		235	16	PSR210	
17	14	5	PSR210		25		70	9.5	PSR210	7		125	11.5	PSR210	22		180	14	PSR210	4		236	16	PSR210	
18	15	5.5	PSR210				8					126	11.5	PSR210	23		181	14	PSR210	5		237	16	PSR210	
19	16	5	PSR210	1			9					127	11.5	PSR210	24		182	14	PSR210	6		238	16	PSR210	
20	17	5	PSR210	2			71	9.5	PSR210	10		128	11.5	PSR210	25		183	14	PSR210	7		239	16	PSR210	
21	18	5	PSR210	3			72	9	PSR210	11		129	11.5	PSR210	1		184	15.5	PSR210	8		240	16	PSR210	
22	19	5	PSR210	4			73	9	PSR210	12		130	11.5	PSR210	2		185	15.5	PSR210	9		241	16	PSR210	
23	20	5	PSR210	5			74	9	PSR210	13		131	11.5	PSR210	3		186	14	PSR210	11		242	16	PSR210	
24	21	5	PSR210	6			75	9	PSR210	14		132	12	PSR210	4		187	14	PSR210	12		243	16	PSR210	
25	22	5.5	PSR210	7			76	9	PSR210	15		133	12	PSR210	5		188	14	PSR210	13		244	16	PSR210	
1	TOWER 1 PLUG				8		77	9	PSR210	16		134	12	PSR210	6		189	14	PSR210	14		245	16	PSR210	
2	23	5.5	PSR210	10			78	9	PSR210	17		135	12	PSR210	7		190	14	PSR210	15		246	16	PSR210	
3	24	5.5	PSR210	11			79	9	PSR210	18		136	12	PSR210	8		191	14	PSR210	16		247	16	PSR210	
4	25	5.5	PSR210	12			80	9	PSR210	19		137	12	PSR210	9		192	14.5	PSR210	17		248	16	PSR210	
5	26	5.5	PSR210	13			81	9.5	PSR210	20		138	12	PSR210	10		193	14.5	PSR210	18		249	16.5	PSR210	
6	27	5.5	PSR210	14			82	9.5	PSR210	21		139	12	PSR210	11		194	14.5	PSR210	19		250	16	PSR210	
7	28	5.5	PSR210	15			83	9.5	PSR210	22		140	12	PSR210	12		195	14.5	PSR210	20		251	16.5	PSR210	
8	29	5.5	PSR210	16			84	9.5	PSR210	23		141	12.5	PSR210	13		196	14.5	PSR210	21		252	16.5	PSR210	
9	30	6	PSR210	17			85	9.5	PSR210	24		142	13.5	PSR210	14		197	14.5	PSR210	22		253	16.5	PSR210	
10	31	6	PSR210	18			86	9.5	PSR210	25		143	13.5	PSR210	15		198	14.5	PSR210	23		254	16.5	PSR210	
11	32	6	PSR210	19			87	9.5	PSR210	1		144	12.5	PSR210	16		199	14.5	PSR210	24		255	16.5	PSR210	
12	33	6	PSR210	20			88	9.5	PSR210	2		145	12.5	PSR210	17		200	14.5	PSR210	25		256	17.5	PSR210	
13	34	6	PSR210	21			89	9.5	PSR210	3		146	12.5	PSR210	18		201	14.5	PSR210	1		257	18	PSR210	
14	35	6	PSR210	22			90	10	PSR210	4		147	12.5	PSR210	19		202	14.5	PSR210	2		258	16.5	PSR210	
15	36	6.5	PSR210	23			91	10	PSR210	5		148	12.5	PSR210	20		203	14.5	PSR210	2		259	16.5	PSR210	
16	37	6.5	PSR210	24			92	10	PSR210	6		149	12.5	PSR210	21		204	15	PSR210	3		260	16.5	PSR210	
17	38	6.5	PSR210	25			93	10	PSR210	7		150	12.5	PSR210	22		205	14.5	PSR210	4		261	17	PSR210	
18	39	6.5	PSR210				94	11	PSR210	8		151	12.5	PSR210	23		206	14.5	PSR210	5		262	17	PSR210	
19	40	6.5	PSR210	1			95	11	PSR210	10		152	12.5	PSR210	25		207	15	PSR210	6		263	14.5	PSR210	
20	41	6.5	PSR210	2			96	10	PSR210	11		153	13	PSR210	1		208	16.5	PSR210	7		264	14.5	PSR210	
21	42	7	PSR210	3			97	10	PSR210	12		154	12.5	PSR210	2		209	16.5	PSR210	8					
22	43	7	PSR210	4			98	10	PSR210	13		155	12.5	PSR210	2		210	15	PSR210	9					
23	44	7	PSR210	5			99	10.5	PSR210	14		156	13	PSR210	3		211	15	PSR210	10					
24	45	7	PSR210	6			100	10	PSR210	15		157	13	PSR210	4		212	15	PSR210	11					
25	46	7.5	PSR210	7			101	10.5	PSR210	16		158	13	PSR210	5		213	15	PSR210	12					
1	TOWER 2 PLUG				9		102	10.5	PSR210	17		159	13	PSR210	6		214	15	PSR210	13					
2	47	8	PSR210	10			103	10.5	PSR210	18		160	14	PSR210	7		215	15	PSR210	14					
3	48	7.5	PSR210	11			104	10.5	PSR210	19						161	14.5	PSR210	10		216	15	PSR210		
4	49	7.5	PSR210	12			105	10.5	PSR210	1		162	13	PSR210	11		217	15	PSR210			218	15	PSR210	
5	50	7.5	PSR210	13			106	10.5	PSR210	2		163	13	PSR210	12		219	15.5	PSR210						
6	51	7.5	PSR210	14			107	10.5	PSR210	2															
7	52	7.5	PSR210	15																					

NORTHWEST IRRIGATION

1880 SOUTH RANGE AVENUE
COLBY, KANSAS 67701

JULY 14, 2022

WISH-105554

TERRY HOCKERSMITH

SECTION 15-11-32

900 gpm @ 37 psi

Rotation time at 100% = 18.19 Hours Or 1091 minutes

LINDSAY GEN II - 90
SENNINGER UP3 LDN SPRAY NOZZLES
SENNINGER 10 PSI REGULATORS
.75 I.D. FLEXIBLE HOSE
NO ENDGUN

Nozzle Difference

Previous chart: WISH-85148 1000 gpm @ 42 psi

Current chart: WISH-105554 900 gpm @ 37 psi

<u>Nozzle Type and Size</u>	<u>Difference</u>	<u>Previous WISH Printouts</u>
LD NOZ UP3 5.5 BEIGE	5	WISH-85148 1000 gpm @ 42 PSI NOVEMBER 04, 2016
LD NOZ UP3 7.5 LIME	5	WISH-85141 1000 gpm @ 40 PSI NOVEMBER 02, 2016
LD NOZ UP3 9 GREY	5	
LD NOZ UP3 9.5 GREY	2	
LD NOZ UP3 10.5 TURQUOISE	3	
LD NOZ UP3 11 YELLOW	1	
LD NOZ UP3 11.5 YELLOW	1	
LD NOZ UP3 12 RED	2	
LD NOZ UP3 12.5 RED	2	
LD NOZ UP3 13.5 WHITE	6	
LD NOZ UP3 14.5 BLUE	6	
LD NOZ UP3 15.5 DK BROWN	1	
LD NOZ UP3 16 ORANGE	2	
Total:	41	

PRECIPITATION CHART FOR FULL CIRCLE

WISH-105554

JULY 14, 2022

DEALER - NORTHWEST IRRIGATION

IRRIGATOR - TERRY HOCKERSMITH
FIELD NO - SECTION 15-11-32

TOTAL LENGTH PIPE = 1980.47 SYSTEM PRESSURE = 37 PSI
 GPM UNDER PIPE = 900.65 TOTAL GPM = 900.65
 ACRES UNDER PIPE = 282.88
 RANGE OF ENDGUN = .00 RUN FOR MINIMUM PRESSURE
 GPM OF ENDGUN = .00
 ACRES UNDER ENDGUN = .00

MOTOR SIZE (HP) = 3/4
 LOADED MOTOR RPM = 1750
 CENTER GEAR BOX RATIO = 40
 WHEEL GEAR BOX RATIO = 50
 TIRE SIZE = NFTTrax
 LAST TOWER SPEED (FPM) = 11.10

PRECIPITATION BASED**% TIMER BASED**

PRECIPITATION INCHES	% TIMER SETTING	TIME HOURS	% TIMER SETTING	PRECIPITATION INCHES	TIME HOURS
.13	100.00	18.19 - 1091(min)	100.00	.13	18.19 - 1091(min)
.20	63.97	28.43	90.00	.14	20.21
.25	51.17	35.54	80.00	.16	22.73
.30	42.64	42.64	70.00	.18	25.98
.40	31.98	56.86	60.00	.21	30.31
.50	25.59	71.07	50.00	.26	36.37
.60	21.32	85.29	45.00	.28	40.41
.70	18.28	99.50	40.00	.32	45.46
.75	17.06	106.61	35.00	.37	51.96
.80	15.99	113.72	30.00	.43	60.62
.90	14.21	127.93	25.00	.51	72.74
1.00	12.79	142.15	20.00	.64	90.93
1.25	10.23	177.68	15.00	.85	121.24
1.50	8.53	213.22	10.00	1.28	181.85
1.75	7.31	248.76	5.00	2.56	363.71

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.