

# NORTHWEST IRRIGATION

SEPTEMBER 22, 2025

WISH-119607

CUSTOMER : PIONEER FEEDYARD

LINDSAY GEN II - 90  
11 TOWER - 1972.47 FT  
SYSTEM 800 GPM @ 30 PSI

LEGAL : SECTION 15-11-32

SENNINGER UP3 LDN SPRAY NOZZLES  
SENNINGER 10 & 6 PSI REGULATORS  
NO ENDGUN  
ELEVATION 15 FT UP, 0 FT DOWN

1880 SOUTH RANGE AVENUE

COLBY, KANSAS 67701

(785)460-1880

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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

PIONEER FEEDYARD  
SECTION 15-11-32

TOTAL TARGET GPM	800.00	FRICTION FACTOR USED	138	SPANS	LENGTH	PIPE I.D.
TOP OF PIVOT PRESSURE	30.00	TOTAL LENGTH	1972.47	1	181.60	6.395
NO ENDGUN		NUMBER OF TOWERS	11	5	179.00	6.395
NUMBER OF OUTLETS	275	NUMBER OF SPRINKLERS	262	1	135.00	6.395
SENNINGER UP3 LDN SPRAY NOZZLES - CONCAVE GROOVED PADS				4	179.00	6.395
SENNINGER PSR-2 10 & 6 PSI SERIES REGULATORS				OH	44.87	5.369
POLYFLEX DROPS AVERAGE 10 FT						
ELEVATION IS 15 FT UP AND 0 FT DOWN						

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.	DROP LENGTH
1		2.92	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	1
2		7.76	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	2
3		15.26	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	3
4	22.59	22.59	0.06	0.59	29.42	11.40	LD NOZ UP3 5 BEIGE	1	SPSR2-10	114	
5	7.34	29.93	0.09	0.59	29.17	11.40	LD NOZ UP3 5 BEIGE	2	SPSR2-10	114	
6	7.33	37.26	0.11	0.59	28.94	11.40	LD NOZ UP3 5 BEIGE	3	SPSR2-10	120	
7	7.50	44.76	0.13	0.59	28.73	11.40	LD NOZ UP3 5 BEIGE	4	SPSR2-10	120	
8	7.00	51.76	0.15	0.59	28.54	11.40	LD NOZ UP3 5 BEIGE	5	SPSR2-10	126	
9	7.50	59.26	0.18	0.59	28.35	11.40	LD NOZ UP3 5 BEIGE	6	SPSR2-10	126	
10	7.33	66.59	0.20	0.59	28.19	11.40	LD NOZ UP3 5 BEIGE	7	SPSR2-10	132	
11	7.34	73.93	0.22	0.59	28.04	11.40	LD NOZ UP3 5 BEIGE	8	SPSR2-10	132	
12	7.33	81.26	0.25	0.59	27.91	11.40	LD NOZ UP3 5 BEIGE	9	SPSR2-10	132	
13	7.50	88.76	0.26	0.59	27.79	11.40	LD NOZ UP3 5 BEIGE	10	SPSR2-10	132	
14	7.00	95.76	0.28	0.59	27.70	11.40	LD NOZ UP3 5 BEIGE	11	SPSR2-10	132	
15	7.50	103.26	0.31	0.59	27.61	11.40	LD NOZ UP3 5 BEIGE	12	SPSR2-10	132	
16	7.33	110.59	0.33	0.59	27.54	11.40	LD NOZ UP3 5 BEIGE	13	SPSR2-10	132	
17	7.34	117.93	0.35	0.59	27.49	11.40	LD NOZ UP3 5 BEIGE	14	SPSR2-10	132	
18	7.33	125.26	0.38	0.59	27.46	11.40	LD NOZ UP3 5 BEIGE	15	SPSR2-10	126	
19	7.50	132.76	0.39	0.59	27.44	11.40	LD NOZ UP3 5 BEIGE	16	SPSR2-10	126	
20	7.00	139.76	0.41	0.59	27.44	11.40	LD NOZ UP3 5 BEIGE	17	SPSR2-10	120	
21	7.50	147.26	0.45	0.59	27.46	11.40	LD NOZ UP3 5 BEIGE	18	SPSR2-10	120	
22	7.33	154.59	0.46	0.59	27.49	11.40	LD NOZ UP3 5 BEIGE	19	SPSR2-10	114	
23	7.34	161.93	0.48	0.59	27.54	11.40	LD NOZ UP3 5 BEIGE	20	SPSR2-10	114	
24	7.33	169.26	0.51	0.59	27.60	11.40	LD NOZ UP3 5 BEIGE	21	SPSR2-10	108	
25	7.50	176.76	0.63	0.59	27.56	11.40	LD NOZ UP3 5 BEIGE	22	SPSR2-10	102	
TOWER 1	181.60	181.60	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	4
26		182.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	4
27	10.00	186.76	0.66	0.72	27.42	11.40	LD NOZ UP3 5.5 BEIGE	23	SPSR2-10	102	
28	7.50	194.26	0.59	0.59	27.22	11.40	LD NOZ UP3 5 BEIGE	24	SPSR2-10	108	
29	7.33	201.59	0.60	0.59	26.96	11.40	LD NOZ UP3 5 BEIGE	25	SPSR2-10	114	
30	7.34	208.93	0.63	0.59	26.71	11.40	LD NOZ UP3 5 BEIGE	26	SPSR2-10	114	
31	7.33	216.26	0.65	0.72	26.49	11.40	LD NOZ UP3 5.5 BEIGE	27	SPSR2-10	120	
32	7.50	223.76	0.66	0.72	26.27	11.40	LD NOZ UP3 5.5 BEIGE	28	SPSR2-10	120	
33	7.00	230.76	0.68	0.72	26.09	11.40	LD NOZ UP3 5.5 BEIGE	29	SPSR2-10	126	
34	7.50	238.26	0.72	0.72	25.91	11.40	LD NOZ UP3 5.5 BEIGE	30	SPSR2-10	126	
35	7.33	245.59	0.73	0.72	25.75	11.40	LD NOZ UP3 5.5 BEIGE	31	SPSR2-10	132	
36	7.34	252.93	0.76	0.72	25.60	11.40	LD NOZ UP3 5.5 BEIGE	32	SPSR2-10	132	
37	7.33	260.26	0.79	0.85	25.47	11.40	LD NOZ UP3 6 GOLD	33	SPSR2-10	132	
38	7.50	267.76	0.79	0.85	25.36	11.40	LD NOZ UP3 6 GOLD	34	SPSR2-10	132	
39	7.00	274.76	0.81	0.85	25.27	11.40	LD NOZ UP3 6 GOLD	35	SPSR2-10	132	
40	7.50	282.26	0.85	0.85	25.19	11.40	LD NOZ UP3 6 GOLD	36	SPSR2-10	132	
41	7.33	289.59	0.87	0.85	25.12	11.40	LD NOZ UP3 6 GOLD	37	SPSR2-10	132	
42	7.34	296.93	0.89	0.85	25.08	11.40	LD NOZ UP3 6 GOLD	38	SPSR2-10	132	
43	7.33	304.26	0.92	0.85	25.05	11.40	LD NOZ UP3 6 GOLD	39	SPSR2-10	126	
44	7.50	311.76	0.92	0.85	25.03	11.40	LD NOZ UP3 6 GOLD	40	SPSR2-10	126	
45	7.00	318.76	0.94	1.00	25.03	11.40	LD NOZ UP3 6.5 GOLD	41	SPSR2-10	120	
46	7.50	326.26	0.99	1.00	25.05	11.40	LD NOZ UP3 6.5 GOLD	42	SPSR2-10	120	
47	7.33	333.59	1.00	1.00	25.09	11.40	LD NOZ UP3 6.5 GOLD	43	SPSR2-10	114	

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.	DROP LENGTH
48	7.34	340.93	1.02	1.00	25.14	11.40	LD NOZ UP3 6.5 GOLD	44	SPSR2-10		114
49	7.33	348.26	1.05	1.00	25.21	11.40	LD NOZ UP3 6.5 GOLD	45	SPSR2-10		108
50	7.50	355.76	1.27	1.35	25.17	11.40	LD NOZ UP3 7.5 LIME	46	SPSR2-10		102
TOWER 2	179.00	360.60									
51		361.59	-	-	-	-	-	-	-	-	5
52	10.00	365.76	1.30	1.35	25.04	11.40	LD NOZ UP3 7.5 LIME	47	SPSR2-10		102
53	7.50	373.26	1.13	1.16	24.84	11.40	LD NOZ UP3 7 LIME	48	SPSR2-10		108
54	7.33	380.59	1.14	1.16	24.59	11.40	LD NOZ UP3 7 LIME	49	SPSR2-10		114
55	7.34	387.93	1.16	1.16	24.35	11.40	LD NOZ UP3 7 LIME	50	SPSR2-10		114
56	7.33	395.26	1.20	1.16	24.13	11.40	LD NOZ UP3 7 LIME	51	SPSR2-10		120
57	7.50	402.76	1.19	1.16	23.92	11.40	LD NOZ UP3 7 LIME	52	SPSR2-10		120
58	7.00	409.76	1.21	1.16	23.74	11.40	LD NOZ UP3 7 LIME	53	SPSR2-10		126
59	7.50	417.26	1.26	1.35	23.56	11.40	LD NOZ UP3 7.5 LIME	54	SPSR2-10		126
60	7.33	424.59	1.27	1.35	23.41	11.40	LD NOZ UP3 7.5 LIME	55	SPSR2-10		132
61	7.34	431.93	1.29	1.35	23.27	11.40	LD NOZ UP3 7.5 LIME	56	SPSR2-10		132
62	7.33	439.26	1.33	1.35	23.15	11.40	LD NOZ UP3 7.5 LIME	57	SPSR2-10		132
63	7.50	446.76	1.32	1.35	23.04	11.40	LD NOZ UP3 7.5 LIME	58	SPSR2-10		132
64	7.00	453.76	1.34	1.35	22.95	11.40	LD NOZ UP3 7.5 LIME	59	SPSR2-10		132
65	7.50	461.26	1.39	1.35	22.88	11.40	LD NOZ UP3 7.5 LIME	60	SPSR2-10		132
66	7.33	468.59	1.40	1.35	22.82	11.40	LD NOZ UP3 7.5 LIME	61	SPSR2-10		132
67	7.34	475.93	1.42	1.35	22.78	11.40	LD NOZ UP3 7.5 LIME	62	SPSR2-10		132
68	7.33	483.26	1.46	1.53	22.76	11.40	LD NOZ UP3 8 LAVENDER	63	SPSR2-10		126
69	7.50	490.76	1.45	1.53	22.75	11.40	LD NOZ UP3 8 LAVENDER	64	SPSR2-10		126
70	7.00	497.76	1.47	1.53	22.76	11.40	LD NOZ UP3 8 LAVENDER	65	SPSR2-10		120
71	7.50	505.26	1.53	1.53	22.79	11.40	LD NOZ UP3 8 LAVENDER	66	SPSR2-10		120
72	7.33	512.59	1.53	1.53	22.83	11.40	LD NOZ UP3 8 LAVENDER	67	SPSR2-10		114
73	7.34	519.93	1.56	1.53	22.89	11.40	LD NOZ UP3 8 LAVENDER	68	SPSR2-10		114
74	7.33	527.26	1.59	1.53	22.96	11.40	LD NOZ UP3 8 LAVENDER	69	SPSR2-10		108
75	7.50	534.76	1.91	1.93	22.93	11.40	LD NOZ UP3 9 GREY	70	SPSR2-10		102
TOWER 3	179.00	539.60									
76		540.59	-	-	-	-	-	-	-	-	6
77	10.00	544.76	1.94	1.91	22.81	7.20	LD NOZ UP3 10 TURQUOISE	71	SPSR2-06		102
78	7.50	552.26	1.67	1.72	22.62	7.21	LD NOZ UP3 9.5 GREY	72	SPSR2-06		108
79	7.33	559.59	1.67	1.72	22.38	7.21	LD NOZ UP3 9.5 GREY	73	SPSR2-06		114
80	7.34	566.93	1.70	1.72	22.14	7.21	LD NOZ UP3 9.5 GREY	74	SPSR2-06		114
81	7.33	574.26	1.74	1.72	21.93	7.21	LD NOZ UP3 9.5 GREY	75	SPSR2-06		120
82	7.50	581.76	1.72	1.72	21.73	7.21	LD NOZ UP3 9.5 GREY	76	SPSR2-06		120
83	7.00	588.76	1.74	1.72	21.56	7.21	LD NOZ UP3 9.5 GREY	77	SPSR2-06		126
84	7.50	596.26	1.80	1.72	21.39	7.21	LD NOZ UP3 9.5 GREY	78	SPSR2-06		126
85	7.33	603.59	1.81	1.72	21.24	7.21	LD NOZ UP3 9.5 GREY	79	SPSR2-06		132
86	7.34	610.93	1.83	1.91	21.11	7.20	LD NOZ UP3 10 TURQUOISE	80	SPSR2-06		132
87	7.33	618.26	1.87	1.91	21.00	7.20	LD NOZ UP3 10 TURQUOISE	81	SPSR2-06		132
88	7.50	625.76	1.85	1.91	20.90	7.20	LD NOZ UP3 10 TURQUOISE	82	SPSR2-06		132
89	7.00	632.76	1.87	1.91	20.82	7.20	LD NOZ UP3 10 TURQUOISE	83	SPSR2-06		132
90	7.50	640.26	1.94	1.91	20.76	7.20	LD NOZ UP3 10 TURQUOISE	84	SPSR2-06		132
91	7.33	647.59	1.94	1.91	20.71	7.20	LD NOZ UP3 10 TURQUOISE	85	SPSR2-06		132
92	7.34	654.93	1.96	1.91	20.68	7.20	LD NOZ UP3 10 TURQUOISE	86	SPSR2-06		132
93	7.33	662.26	2.00	1.91	20.66	7.20	LD NOZ UP3 10 TURQUOISE	87	SPSR2-06		126

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.	DROP LENGTH
94	7.50	669.76	1.98	1.91	20.67	7.20	LD NOZ UP3 10 TURQUOISE	88	SPSR2-06		126
95	7.00	676.76	2.00	1.91	20.68	7.20	LD NOZ UP3 10 TURQUOISE	89	SPSR2-06		120
96	7.50	684.26	2.07	2.10	20.72	7.19	LD NOZ UP3 10.5 TURQUOISE	90	SPSR2-06		120
97	7.33	691.59	2.07	2.10	20.77	7.19	LD NOZ UP3 10.5 TURQUOISE	91	SPSR2-06		114
98	7.34	698.93	2.09	2.10	20.84	7.19	LD NOZ UP3 10.5 TURQUOISE	92	SPSR2-06		114
99	7.33	706.26	2.14	2.10	20.93	7.19	LD NOZ UP3 10.5 TURQUOISE	93	SPSR2-06		108
100	7.50	713.76	2.55	2.51	20.91	7.17	LD NOZ UP3 11.5 YELLOW	94	SPSR2-06		102
TOWER 4	179.00	718.60									
101		719.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	7
102	10.00	723.76	2.58	2.51	20.80	7.17	LD NOZ UP3 11.5 YELLOW	95	SPSR2-06		102
103	7.50	731.26	2.21	2.30	20.62	7.18	LD NOZ UP3 11 YELLOW	96	SPSR2-06		108
104	7.33	738.59	2.21	2.30	20.38	7.18	LD NOZ UP3 11 YELLOW	97	SPSR2-06		114
105	7.34	745.93	2.23	2.30	20.16	7.18	LD NOZ UP3 11 YELLOW	98	SPSR2-06		114
106	7.33	753.26	2.28	2.30	19.96	7.18	LD NOZ UP3 11 YELLOW	99	SPSR2-06		120
107	7.50	760.76	2.25	2.30	19.77	7.18	LD NOZ UP3 11 YELLOW	100	SPSR2-06		120
108	7.00	767.76	2.27	2.30	19.60	7.18	LD NOZ UP3 11 YELLOW	101	SPSR2-06		126
109	7.50	775.26	2.34	2.30	19.45	7.18	LD NOZ UP3 11 YELLOW	102	SPSR2-06		126
110	7.33	782.59	2.34	2.30	19.31	7.18	LD NOZ UP3 11 YELLOW	103	SPSR2-06		132
111	7.34	789.93	2.36	2.30	19.19	7.18	LD NOZ UP3 11 YELLOW	104	SPSR2-06		132
112	7.33	797.26	2.41	2.51	19.09	7.17	LD NOZ UP3 11.5 YELLOW	105	SPSR2-06		132
113	7.50	804.76	2.38	2.30	19.00	7.18	LD NOZ UP3 11 YELLOW	106	SPSR2-06		132
114	7.00	811.76	2.40	2.30	18.93	7.18	LD NOZ UP3 11 YELLOW	107	SPSR2-06		132
115	7.50	819.26	2.48	2.51	18.88	7.17	LD NOZ UP3 11.5 YELLOW	108	SPSR2-06		132
116	7.33	826.59	2.47	2.51	18.84	7.17	LD NOZ UP3 11.5 YELLOW	109	SPSR2-06		132
117	7.34	833.93	2.50	2.51	18.82	7.17	LD NOZ UP3 11.5 YELLOW	110	SPSR2-06		132
118	7.33	841.26	2.55	2.51	18.82	7.17	LD NOZ UP3 11.5 YELLOW	111	SPSR2-06		126
119	7.50	848.76	2.51	2.51	18.83	7.17	LD NOZ UP3 11.5 YELLOW	112	SPSR2-06		126
120	7.00	855.76	2.53	2.51	18.86	7.17	LD NOZ UP3 11.5 YELLOW	113	SPSR2-06		120
121	7.50	863.26	2.61	2.51	18.91	7.17	LD NOZ UP3 11.5 YELLOW	114	SPSR2-06		120
122	7.33	870.59	2.61	2.51	18.97	7.17	LD NOZ UP3 11.5 YELLOW	115	SPSR2-06		114
123	7.34	877.93	2.63	2.74	19.05	7.15	LD NOZ UP3 12 RED	116	SPSR2-06		114
124	7.33	885.26	2.68	2.74	19.15	7.15	LD NOZ UP3 12 RED	117	SPSR2-06		108
125	7.50	892.76	3.19	3.21	19.14	7.12	LD NOZ UP3 13 WHITE	118	SPSR2-06		102
TOWER 5	179.00	897.60									
126		898.59	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	8
127	10.00	902.76	3.22	3.21	19.05	7.12	LD NOZ UP3 13 WHITE	119	SPSR2-06		102
128	7.50	910.26	2.75	2.74	18.88	7.15	LD NOZ UP3 12 RED	120	SPSR2-06		108
129	7.33	917.59	2.75	2.74	18.66	7.15	LD NOZ UP3 12 RED	121	SPSR2-06		114
130	7.34	924.93	2.77	2.74	18.45	7.15	LD NOZ UP3 12 RED	122	SPSR2-06		114
131	7.33	932.26	2.82	2.74	18.26	7.15	LD NOZ UP3 12 RED	123	SPSR2-06		120
132	7.50	939.76	2.78	2.74	18.08	7.15	LD NOZ UP3 12 RED	124	SPSR2-06		120
133	7.00	946.76	2.80	2.74	17.93	7.15	LD NOZ UP3 12 RED	125	SPSR2-06		126
134	7.50	954.26	2.89	2.97	17.78	7.14	LD NOZ UP3 12.5 RED	126	SPSR2-06		126
135	7.33	961.59	2.88	2.97	17.66	7.14	LD NOZ UP3 12.5 RED	127	SPSR2-06		132
136	7.34	968.93	2.90	2.97	17.55	7.14	LD NOZ UP3 12.5 RED	128	SPSR2-06		132
137	7.33	976.26	2.95	2.97	17.46	7.14	LD NOZ UP3 12.5 RED	129	SPSR2-06		132
138	7.50	983.76	2.91	2.97	17.39	7.14	LD NOZ UP3 12.5 RED	130	SPSR2-06		132
139	7.00	990.76	2.93	2.97	17.33	7.14	LD NOZ UP3 12.5 RED	131	SPSR2-06		132

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.	DROP LENGTH
140	7.50	998.26	3.02	2.97	17.29	7.14	LD NOZ UP3 12.5 RED	132	SPSR2-06		132
141	7.33	1005.59	3.01	2.97	17.27	7.14	LD NOZ UP3 12.5 RED	133	SPSR2-06		132
142	7.34	1012.93	3.03	2.97	17.26	7.14	LD NOZ UP3 12.5 RED	134	SPSR2-06		132
143	7.33	1020.26	3.09	2.97	17.27	7.14	LD NOZ UP3 12.5 RED	135	SPSR2-06		126
144	7.50	1027.76	3.04	2.97	17.30	7.14	LD NOZ UP3 12.5 RED	136	SPSR2-06		126
145	7.00	1034.76	3.06	2.97	17.34	7.14	LD NOZ UP3 12.5 RED	137	SPSR2-06		120
146	7.50	1042.26	3.16	3.21	17.40	7.12	LD NOZ UP3 13 WHITE	138	SPSR2-06		120
147	7.33	1049.59	3.14	3.21	17.48	7.12	LD NOZ UP3 13 WHITE	139	SPSR2-06		114
148	7.34	1056.93	3.16	3.21	17.57	7.12	LD NOZ UP3 13 WHITE	140	SPSR2-06		114
149	7.33	1064.26	3.22	3.21	17.68	7.12	LD NOZ UP3 13 WHITE	141	SPSR2-06		108
150	7.50	1071.76	3.83	3.72	17.68	7.09	LD NOZ UP3 14 BLUE	142	SPSR2-06		102
TOWER 6	179.00	1076.60									
151		1077.59	-	-	-	-	-	-	-	-	9
152	10.00	1081.76	3.86	3.98	17.61	7.07	LD NOZ UP3 14.5 BLUE	143	SPSR2-06		102
153	7.50	1089.26	3.30	3.21	17.39	7.12	LD NOZ UP3 13 WHITE	144	SPSR2-06		108
154	7.33	1096.59	3.28	3.21	17.18	7.12	LD NOZ UP3 13 WHITE	145	SPSR2-06		114
155	7.34	1103.93	3.31	3.21	16.99	7.12	LD NOZ UP3 13 WHITE	146	SPSR2-06		114
156	7.33	1111.26	3.36	3.46	16.82	7.10	LD NOZ UP3 13.5 WHITE	147	SPSR2-06		120
157	7.50	1118.76	3.31	3.21	16.68	7.12	LD NOZ UP3 13 WHITE	148	SPSR2-06		120
158	7.00	1125.76	3.33	3.21	16.57	7.12	LD NOZ UP3 13 WHITE	149	SPSR2-06		126
159	7.50	1133.26	3.43	3.46	16.47	7.10	LD NOZ UP3 13.5 WHITE	150	SPSR2-06		126
160	7.33	1140.59	3.42	3.46	16.40	7.10	LD NOZ UP3 13.5 WHITE	151	SPSR2-06		126
161	7.34	1147.93	3.44	3.46	16.36	7.10	LD NOZ UP3 13.5 WHITE	152	SPSR2-06		126
162	7.33	1155.26	3.50	3.46	16.34	7.10	LD NOZ UP3 13.5 WHITE	153	SPSR2-06		126
163	7.50	1162.76	3.44	3.46	16.34	7.10	LD NOZ UP3 13.5 WHITE	154	SPSR2-06		126
164	7.00	1169.76	3.46	3.46	16.37	7.10	LD NOZ UP3 13.5 WHITE	155	SPSR2-06		120
165	7.50	1177.26	3.56	3.46	16.42	7.10	LD NOZ UP3 13.5 WHITE	156	SPSR2-06		120
166	7.33	1184.59	3.55	3.46	16.50	7.10	LD NOZ UP3 13.5 WHITE	157	SPSR2-06		114
167	7.34	1191.93	3.57	3.46	16.60	7.10	LD NOZ UP3 13.5 WHITE	158	SPSR2-06		114
168	7.33	1199.26	3.63	3.72	16.72	7.09	LD NOZ UP3 14 BLUE	159	SPSR2-06		108
169	7.50	1206.76	4.32	4.26	16.80	7.05	LD NOZ UP3 15 DK BROWN	160	SPSR2-06		102
TOWER 7	135.00	1211.60									
170		1212.59	-	-	-	-	-	-	-	-	10
171	10.00	1216.76	4.35	4.26	16.75	7.05	LD NOZ UP3 15 DK BROWN	161	SPSR2-06		102
172	7.50	1224.26	3.71	3.72	16.60	7.09	LD NOZ UP3 14 BLUE	162	SPSR2-06		108
173	7.33	1231.59	3.69	3.72	16.40	7.09	LD NOZ UP3 14 BLUE	163	SPSR2-06		114
174	7.34	1238.93	3.71	3.72	16.21	7.09	LD NOZ UP3 14 BLUE	164	SPSR2-06		114
175	7.33	1246.26	3.78	3.72	16.05	7.09	LD NOZ UP3 14 BLUE	165	SPSR2-06		120
176	7.50	1253.76	3.71	3.72	15.89	7.09	LD NOZ UP3 14 BLUE	166	SPSR2-06		120
177	7.00	1260.76	3.74	3.72	15.77	7.09	LD NOZ UP3 14 BLUE	167	SPSR2-06		126
178	7.50	1268.26	3.84	3.72	15.65	7.09	LD NOZ UP3 14 BLUE	168	SPSR2-06		126
179	7.33	1275.59	3.82	3.72	15.55	7.09	LD NOZ UP3 14 BLUE	169	SPSR2-06		132
180	7.34	1282.93	3.85	3.72	15.46	7.09	LD NOZ UP3 14 BLUE	170	SPSR2-06		132
181	7.33	1290.26	3.91	3.98	15.40	7.07	LD NOZ UP3 14.5 BLUE	171	SPSR2-06		132
182	7.50	1297.76	3.85	3.72	15.35	7.09	LD NOZ UP3 14 BLUE	172	SPSR2-06		132
183	7.00	1304.76	3.87	3.98	15.31	7.07	LD NOZ UP3 14.5 BLUE	173	SPSR2-06		132
184	7.50	1312.26	3.98	3.98	15.30	7.07	LD NOZ UP3 14.5 BLUE	174	SPSR2-06		132
185	7.33	1319.59	3.96	3.98	15.30	7.07	LD NOZ UP3 14.5 BLUE	175	SPSR2-06		132

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.	DROP LENGTH
186	7.34	1326.93	3.98	3.98	15.31	7.07	LD NOZ UP3 14.5 BLUE	176	SPSR2-06		132
187	7.33	1334.26	4.05	3.98	15.35	7.07	LD NOZ UP3 14.5 BLUE	177	SPSR2-06		126
188	7.50	1341.76	3.98	3.98	15.40	7.07	LD NOZ UP3 14.5 BLUE	178	SPSR2-06		126
189	7.00	1348.76	4.00	3.98	15.46	7.07	LD NOZ UP3 14.5 BLUE	179	SPSR2-06		120
190	7.50	1356.26	4.11	3.98	15.55	7.07	LD NOZ UP3 14.5 BLUE	180	SPSR2-06		120
191	7.33	1363.59	4.09	3.98	15.65	7.07	LD NOZ UP3 14.5 BLUE	181	SPSR2-06		114
192	7.34	1370.93	4.12	3.98	15.77	7.07	LD NOZ UP3 14.5 BLUE	182	SPSR2-06		114
193	7.33	1378.26	4.18	4.26	15.90	7.05	LD NOZ UP3 15 DK BROWN	183	SPSR2-06		108
194	7.50	1385.76	4.97	4.84	15.93	7.01	LD NOZ UP3 16 ORANGE	184	SPSR2-06		102
TOWER 8	179.00	1390.60									11
195		1391.59	-	-	-	-	-	-	-	-	-
196	10.00	1395.76	5.00	5.13	15.89	6.98	LD NOZ UP3 16.5 ORANGE	185	SPSR2-06		102
197	7.50	1403.26	4.26	4.26	15.76	7.05	LD NOZ UP3 15 DK BROWN	186	SPSR2-06		108
198	7.33	1410.59	4.23	4.26	15.57	7.05	LD NOZ UP3 15 DK BROWN	187	SPSR2-06		114
199	7.34	1417.93	4.26	4.26	15.40	7.05	LD NOZ UP3 15 DK BROWN	188	SPSR2-06		114
200	7.33	1425.26	4.33	4.26	15.25	7.05	LD NOZ UP3 15 DK BROWN	189	SPSR2-06		120
201	7.50	1432.76	4.25	4.26	15.11	7.05	LD NOZ UP3 15 DK BROWN	190	SPSR2-06		120
202	7.00	1439.76	4.27	4.26	14.99	7.05	LD NOZ UP3 15 DK BROWN	191	SPSR2-06		126
203	7.50	1447.26	4.39	4.26	14.89	7.05	LD NOZ UP3 15 DK BROWN	192	SPSR2-06		126
204	7.33	1454.59	4.37	4.26	14.80	7.05	LD NOZ UP3 15 DK BROWN	193	SPSR2-06		132
205	7.34	1461.93	4.39	4.26	14.73	7.05	LD NOZ UP3 15 DK BROWN	194	SPSR2-06		132
206	7.33	1469.26	4.46	4.55	14.68	7.03	LD NOZ UP3 15.5 DK BROWN	195	SPSR2-06		132
207	7.50	1476.76	4.39	4.26	14.64	7.05	LD NOZ UP3 15 DK BROWN	196	SPSR2-06		132
208	7.00	1483.76	4.41	4.55	14.62	7.03	LD NOZ UP3 15.5 DK BROWN	197	SPSR2-06		132
209	7.50	1491.26	4.53	4.55	14.62	7.03	LD NOZ UP3 15.5 DK BROWN	198	SPSR2-06		132
210	7.33	1498.59	4.50	4.55	14.63	7.03	LD NOZ UP3 15.5 DK BROWN	199	SPSR2-06		132
211	7.34	1505.93	4.52	4.55	14.66	7.03	LD NOZ UP3 15.5 DK BROWN	200	SPSR2-06		132
212	7.33	1513.26	4.60	4.55	14.71	7.03	LD NOZ UP3 15.5 DK BROWN	201	SPSR2-06		126
213	7.50	1520.76	4.52	4.55	14.77	7.03	LD NOZ UP3 15.5 DK BROWN	202	SPSR2-06		126
214	7.00	1527.76	4.54	4.55	14.85	7.03	LD NOZ UP3 15.5 DK BROWN	203	SPSR2-06		120
215	7.50	1535.26	4.66	4.55	14.95	7.03	LD NOZ UP3 15.5 DK BROWN	204	SPSR2-06		120
216	7.33	1542.59	4.64	4.55	15.06	7.03	LD NOZ UP3 15.5 DK BROWN	205	SPSR2-06		114
217	7.34	1549.93	4.66	4.55	15.19	7.03	LD NOZ UP3 15.5 DK BROWN	206	SPSR2-06		114
218	7.33	1557.26	4.73	4.84	15.34	7.01	LD NOZ UP3 16 ORANGE	207	SPSR2-06		108
219	7.50	1564.76	5.61	5.74	15.38	6.88	LD NOZ UP3 17.5 DK GREEN	208	SPSR2-06		102
TOWER 9	179.00	1569.60									12
220		1570.59	-	-	-	-	-	-	-	-	-
221	10.00	1574.76	5.64	5.74	15.36	6.88	LD NOZ UP3 17.5 DK GREEN	209	SPSR2-06		102
222	7.50	1582.26	4.80	4.84	15.24	7.01	LD NOZ UP3 16 ORANGE	210	SPSR2-06		108
223	7.33	1589.59	4.77	4.84	15.07	7.01	LD NOZ UP3 16 ORANGE	211	SPSR2-06		114
224	7.34	1596.93	4.79	4.84	14.91	7.01	LD NOZ UP3 16 ORANGE	212	SPSR2-06		114
225	7.33	1604.26	4.87	4.84	14.77	7.01	LD NOZ UP3 16 ORANGE	213	SPSR2-06		120
226	7.50	1611.76	4.78	4.84	14.64	7.01	LD NOZ UP3 16 ORANGE	214	SPSR2-06		120
227	7.00	1618.76	4.80	4.84	14.54	7.01	LD NOZ UP3 16 ORANGE	215	SPSR2-06		126
228	7.50	1626.26	4.93	4.84	14.44	7.01	LD NOZ UP3 16 ORANGE	216	SPSR2-06		126
229	7.33	1633.59	4.90	4.84	14.37	7.01	LD NOZ UP3 16 ORANGE	217	SPSR2-06		132
230	7.34	1640.93	4.93	4.84	14.31	7.01	LD NOZ UP3 16 ORANGE	218	SPSR2-06		132
231	7.33	1648.26	5.01	5.13	14.27	6.98	LD NOZ UP3 16.5 ORANGE	219	SPSR2-06		132

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.	DROP LENGTH
232	7.50	1655.76	4.91	4.84	14.24	7.01	LD NOZ UP3 16 ORANGE	220	SPSR2-06		132
233	7.00	1662.76	4.94	4.84	14.24	7.01	LD NOZ UP3 16 ORANGE	221	SPSR2-06		132
234	7.50	1670.26	5.07	5.13	14.24	6.98	LD NOZ UP3 16.5 ORANGE	222	SPSR2-06		132
235	7.33	1677.59	5.04	5.13	14.27	6.98	LD NOZ UP3 16.5 ORANGE	223	SPSR2-06		132
236	7.34	1684.93	5.06	5.13	14.31	6.98	LD NOZ UP3 16.5 ORANGE	224	SPSR2-06		132
237	7.33	1692.26	5.13	5.13	14.37	6.98	LD NOZ UP3 16.5 ORANGE	225	SPSR2-06		126
238	7.50	1699.76	5.04	5.13	14.45	6.98	LD NOZ UP3 16.5 ORANGE	226	SPSR2-06		126
239	7.00	1706.76	5.06	5.13	14.53	6.98	LD NOZ UP3 16.5 ORANGE	227	SPSR2-06		120
240	7.50	1714.26	5.20	5.13	14.64	6.98	LD NOZ UP3 16.5 ORANGE	228	SPSR2-06		120
241	7.33	1721.59	5.16	5.13	14.77	6.98	LD NOZ UP3 16.5 ORANGE	229	SPSR2-06		114
242	7.34	1728.93	5.19	5.13	14.91	6.98	LD NOZ UP3 16.5 ORANGE	230	SPSR2-06		114
243	7.33	1736.26	5.27	5.13	15.06	6.98	LD NOZ UP3 16.5 ORANGE	231	SPSR2-06		108
244	7.50	1743.76	6.25	6.37	15.12	6.78	LD NOZ UP3 18.5 PURPLE	232	SPSR2-06		102
TOWER 10	179.00	1748.60									
245		1749.59	-	-	-	-	-	-	-	-	13
246	10.00	1753.76	6.28	6.37	15.11	6.78	LD NOZ UP3 18.5 PURPLE	233	SPSR2-06		102
247	7.50	1761.26	5.34	5.44	15.00	6.93	LD NOZ UP3 17 DK GREEN	234	SPSR2-06		108
248	7.33	1768.59	5.30	5.44	14.84	6.93	LD NOZ UP3 17 DK GREEN	235	SPSR2-06		114
249	7.34	1775.93	5.32	5.44	14.69	6.93	LD NOZ UP3 17 DK GREEN	236	SPSR2-06		114
250	7.33	1783.26	5.40	5.44	14.56	6.93	LD NOZ UP3 17 DK GREEN	237	SPSR2-06		120
251	7.50	1790.76	5.30	5.44	14.44	6.93	LD NOZ UP3 17 DK GREEN	238	SPSR2-06		120
252	7.00	1797.76	5.31	5.44	14.34	6.93	LD NOZ UP3 17 DK GREEN	239	SPSR2-06		126
253	7.50	1805.26	5.45	5.44	14.26	6.93	LD NOZ UP3 17 DK GREEN	240	SPSR2-06		126
254	7.33	1812.59	5.41	5.44	14.19	6.93	LD NOZ UP3 17 DK GREEN	241	SPSR2-06		132
255	7.34	1819.93	5.43	5.44	14.14	6.93	LD NOZ UP3 17 DK GREEN	242	SPSR2-06		132
256	7.33	1827.26	5.52	5.44	14.11	6.93	LD NOZ UP3 17 DK GREEN	243	SPSR2-06		132
257	7.50	1834.76	5.42	5.44	14.09	6.93	LD NOZ UP3 17 DK GREEN	244	SPSR2-06		132
258	7.00	1841.76	5.44	5.44	14.09	6.93	LD NOZ UP3 17 DK GREEN	245	SPSR2-06		132
259	7.50	1849.26	5.58	5.44	14.11	6.93	LD NOZ UP3 17 DK GREEN	246	SPSR2-06		132
260	7.33	1856.59	5.56	5.44	14.14	6.93	LD NOZ UP3 17 DK GREEN	247	SPSR2-06		132
261	7.34	1863.93	5.58	5.44	14.19	6.93	LD NOZ UP3 17 DK GREEN	248	SPSR2-06		132
262	7.33	1871.26	5.68	5.74	14.26	6.88	LD NOZ UP3 17.5 DK GREEN	249	SPSR2-06		126
263	7.50	1878.76	5.57	5.44	14.34	6.93	LD NOZ UP3 17 DK GREEN	250	SPSR2-06		126
264	7.00	1885.76	5.60	5.74	14.43	6.88	LD NOZ UP3 17.5 DK GREEN	251	SPSR2-06		120
265	7.50	1893.26	5.74	5.74	14.55	6.88	LD NOZ UP3 17.5 DK GREEN	252	SPSR2-06		120
266	7.33	1900.59	5.70	5.74	14.68	6.88	LD NOZ UP3 17.5 DK GREEN	253	SPSR2-06		114
267	7.34	1907.93	5.72	5.74	14.83	6.88	LD NOZ UP3 17.5 DK GREEN	254	SPSR2-06		114
268	7.33	1915.26	5.80	5.74	14.99	6.88	LD NOZ UP3 17.5 DK GREEN	255	SPSR2-06		108
269	7.50	1922.76	6.57	6.68	15.05	6.73	LD NOZ UP3 19 BLACK	256	SPSR2-06		102
TOWER 11	179.00	1927.60									
			PIPE ID CHANGES FROM 6.395 TO 5.369								
270	9.21	1931.97	6.58	6.68	15.05	6.73	LD NOZ UP3 19 BLACK	257	SPSR2-06		102
271	7.50	1939.47	5.84	5.74	15.05	6.88	LD NOZ UP3 17.5 DK GREEN	258	SPSR2-06		102
272	7.33	1946.80	5.82	5.74	15.05	6.88	LD NOZ UP3 17.5 DK GREEN	259	SPSR2-06		102
273	7.34	1954.14	5.87	5.74	15.05	6.88	LD NOZ UP3 17.5 DK GREEN	260	SPSR2-06		102
274	7.33	1961.47	6.02	6.05	15.05	6.83	LD NOZ UP3 18 PURPLE	261	SPSR2-06		102
275	7.50	1968.97	6.04	6.05	15.05	6.83	LD NOZ UP3 18 PURPLE	262	SPSR2-06		102

OVERHANG 44.87 1972.47

TOTAL GPM = 800.17

GPA = 2.85

MINIMUM RECOMMENDED REGULATOR INLET PRESSURE IS 11.00 PSI  
 WITH GRADUATED ELEVATION OF 15.00 FT THE INLET PRESSURE IS 11.82 PSI FOR SPRINKLER 262  
 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 <u>UNDER SPAN</u>	AVERAGE IN. DELIVERED FOR REVOLUTION TIME		
							36 HR	48 HR	60 HR
1	2.38	6.78	12.94	91%	5.44	0.012	0.43	0.58	0.72
2	7.00	19.96	19.92	0%	2.85	0.006	0.23	0.30	0.38
3	11.62	33.13	33.04	0%	2.84	0.006	0.23	0.30	0.38
4	16.24	46.31	45.67	-1%	2.81	0.006	0.22	0.30	0.37
5	20.86	59.49	59.09	-1%	2.83	0.006	0.23	0.30	0.38
6	25.49	72.66	71.88	-1%	2.82	0.006	0.22	0.30	0.37
7	22.28	63.52	62.55	-2%	2.81	0.006	0.22	0.30	0.37
8	33.59	95.78	94.40	-1%	2.81	0.006	0.22	0.30	0.37
9	38.22	108.95	108.24	-1%	2.83	0.006	0.23	0.30	0.38
10	42.84	122.13	121.83	0%	2.84	0.006	0.23	0.30	0.38
11	47.46	135.31	134.77	0%	2.84	0.006	0.23	0.30	0.38
OVERHANG	12.62	35.98	35.83	0%	2.84	0.006	0.23	0.30	0.38
TOTAL	280.60	800.00	800.17		2.85				

**SUMMARY OF SPRINKLERS**

25 LD NOZ UP3 5 BEIGE  
7 LD NOZ UP3 5.5 BEIGE  
8 LD NOZ UP3 6 GOLD  
5 LD NOZ UP3 6.5 GOLD  
6 LD NOZ UP3 7 LIME  
11 LD NOZ UP3 7.5 LIME  
7 LD NOZ UP3 8 LAVENDER  
1 LD NOZ UP3 9 GREY  
8 LD NOZ UP3 9.5 GREY  
11 LD NOZ UP3 10 TURQUOISE  
4 LD NOZ UP3 10.5 TURQUOISE  
11 LD NOZ UP3 11 YELLOW  
11 LD NOZ UP3 11.5 YELLOW  
8 LD NOZ UP3 12 RED  
12 LD NOZ UP3 12.5 RED  
11 LD NOZ UP3 13 WHITE  
10 LD NOZ UP3 13.5 WHITE  
12 LD NOZ UP3 14 BLUE  
12 LD NOZ UP3 14.5 BLUE  
13 LD NOZ UP3 15 DK BROWN  
11 LD NOZ UP3 15.5 DK BROWN  
13 LD NOZ UP3 16 ORANGE  
12 LD NOZ UP3 16.5 ORANGE  
16 LD NOZ UP3 17 DK GREEN  
11 LD NOZ UP3 17.5 DK GREEN  
2 LD NOZ UP3 18 PURPLE  
2 LD NOZ UP3 18.5 PURPLE  
2 LD NOZ UP3 19 BLACK

**SUMMARY OF DROPS**

27 102 IN DROP  
21 108 IN DROP  
44 114 IN DROP  
44 120 IN DROP  
46 126 IN DROP  
80 132 IN DROP

**SUMMARY OF REGULATORS**

70 Senn PSR2 10 psi  
192 Senn PSR2 6 psi

**13 PLUGS****TOTAL OF 262 DROPS****TOTAL OF 262 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, 22, 24, 25, 26
LD NOZ UP3 5.5 BEIGE	23, 27, 28, 29, 30, 31, 32
LD NOZ UP3 6 GOLD	33, 34, 35, 36, 37, 38, 39, 40
LD NOZ UP3 6.5 GOLD	41, 42, 43, 44, 45
LD NOZ UP3 7 LIME	48, 49, 50, 51, 52, 53
LD NOZ UP3 7.5 LIME	46, 47, 54, 55, 56, 57, 58, 59, 60, 61, 62
LD NOZ UP3 8 LAVENDER	63, 64, 65, 66, 67, 68, 69
LD NOZ UP3 9 GREY	70
LD NOZ UP3 9.5 GREY	72, 73, 74, 75, 76, 77, 78, 79
LD NOZ UP3 10 TURQUOISE	71, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89
LD NOZ UP3 10.5 TURQUOISE	90, 91, 92, 93
LD NOZ UP3 11 YELLOW	96, 97, 98, 99, 100, 101, 102, 103, 104, 106, 107
LD NOZ UP3 11.5 YELLOW	94, 95, 105, 108, 109, 110, 111, 112, 113, 114, 115
LD NOZ UP3 12 RED	116, 117, 120, 121, 122, 123, 124, 125
LD NOZ UP3 12.5 RED	126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137
LD NOZ UP3 13 WHITE	118, 119, 138, 139, 140, 141, 144, 145, 146, 148, 149
LD NOZ UP3 13.5 WHITE	147, 150, 151, 152, 153, 154, 155, 156, 157, 158
LD NOZ UP3 14 BLUE	142, 159, 162, 163, 164, 165, 166, 167, 168, 169, 170, 172
LD NOZ UP3 14.5 BLUE	143, 171, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182
LD NOZ UP3 15 DK BROWN	160, 161, 183, 186, 187, 188, 189, 190, 191, 192, 193, 194, 196
LD NOZ UP3 15.5 DK BROWN	195, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206
LD NOZ UP3 16 ORANGE	184, 207, 210, 211, 212, 213, 214, 215, 216, 217, 218, 220, 221
LD NOZ UP3 16.5 ORANGE	185, 219, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231
LD NOZ UP3 17 DK GREEN	234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 250
LD NOZ UP3 17.5 DK GREEN	208, 209, 249, 251, 252, 253, 254, 255, 258, 259, 260
LD NOZ UP3 18 PURPLE	261, 262
LD NOZ UP3 18.5 PURPLE	232, 233
LD NOZ UP3 19 BLACK	256, 257

# NORTHWEST IRRIGATION

## 1880 SOUTH RANGE AVENUE

### COLBY, KANSAS 67701

SEPTEMBER 22, 2025  
WISH-119607  
PIONEER FEEDYARD  
SECTION 15-11-32  
800 GPM @ 30 PSI

LINDSAY GEN II - 90  
SENNINGER UP3 LDN SPRAY NOZZLES  
SENNINGER 10 & 6 PSI REGULATORS  
POLYFLEX DROPS  
NO ENDGUN

Rotation time at 100% = 18.19 Hours Or 1091 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				9	126	54	7.5	PSR210	17	132	110	11.5	PSR206	5	114	164	14	PSR206	13	132	220	16	PSR206
2	PLUG				10	132	55	7.5	PSR210	18	126	111	11.5	PSR206	6	120	165	14	PSR206	14	132	221	16	PSR206
3	PLUG				11	132	56	7.5	PSR210	19	126	112	11.5	PSR206	7	120	166	14	PSR206	15	132	222	16.5	PSR206
4	114 1	5	PSR210		12	132	57	7.5	PSR210	20	120	113	11.5	PSR206	8	126	167	14	PSR206	16	132	223	16.5	PSR206
5	114 2	5	PSR210		13	132	58	7.5	PSR210	21	120	114	11.5	PSR206	9	126	168	14	PSR206	17	132	224	16.5	PSR206
6	120 3	5	PSR210		14	132	59	7.5	PSR210	22	114	115	11.5	PSR206	10	132	169	14	PSR206	18	126	225	16.5	PSR206
7	120 4	5	PSR210		15	132	60	7.5	PSR210	23	114	116	12	PSR206	11	132	170	14	PSR206	19	126	226	16.5	PSR206
8	126 5	5	PSR210		16	132	61	7.5	PSR210	24	108	117	12	PSR206	12	132	171	14.5	PSR206	20	120	227	16.5	PSR206
9	126 6	5	PSR210		17	132	62	7.5	PSR210	25	102	118	13	PSR206	13	132	172	14	PSR206	21	120	228	16.5	PSR206
10	132 7	5	PSR210		18	126	63	8	PSR210						14	132	173	14.5	PSR206	22	114	229	16.5	PSR206
11	132 8	5	PSR210		19	126	64	8	PSR210	1	PLUG				15	132	174	14.5	PSR206	23	114	230	16.5	PSR206
12	132 9	5	PSR210		20	120	65	8	PSR210	2	102	119	13	PSR206	16	132	175	14.5	PSR206	24	108	231	16.5	PSR206
13	132 10	5	PSR210		21	120	66	8	PSR210	3	108	120	12	PSR206	17	132	176	14.5	PSR206	25	102	232	18.5	PSR206
14	132 11	5	PSR210		22	114	67	8	PSR210	4	114	121	12	PSR206	18	126	177	14.5	PSR206					
15	132 12	5	PSR210		23	114	68	8	PSR210	5	114	122	12	PSR206	19	126	178	14.5	PSR206	1	102	233	18.5	PSR206
16	132 13	5	PSR210		24	108	69	8	PSR210	6	120	123	12	PSR206	20	120	179	14.5	PSR206	2	108	234	17	PSR206
17	132 14	5	PSR210		25	102	70	9	PSR210	7	120	124	12	PSR206	21	120	180	14.5	PSR206	3	114	235	17	PSR206
18	126 15	5	PSR210							8	126	125	12	PSR206	22	114	181	14.5	PSR206	4	114	236	17	PSR206
19	126 16	5	PSR210	1	PLUG					9	126	126	12.5	PSR206	23	114	182	14.5	PSR206	5	114	236	17	PSR206
20	120 17	5	PSR210	2	102	71	10	PSR206	10	132	127	12.5	PSR206	24	108	183	15	PSR206	6	120	237	17	PSR206	
21	120 18	5	PSR210	3	108	72	9.5	PSR206	11	132	128	12.5	PSR206	25	102	184	16	PSR206	7	120	238	17	PSR206	
22	114 19	5	PSR210	4	114	73	9.5	PSR206	12	132	129	12.5	PSR206											
23	114 20	5	PSR210	5	114	74	9.5	PSR206	13	132	130	12.5	PSR206	1	102	185	16.5	PSR206	10	132	241	17	PSR206	
24	108 21	5	PSR210	6	120	75	9.5	PSR206	14	132	131	12.5	PSR206	2	102	186	15	PSR206	11	132	242	17	PSR206	
25	102 22	5	PSR210	7	120	76	9.5	PSR206	15	132	132	12.5	PSR206	3	108	186	15	PSR206	12	132	243	17	PSR206	
1	<b>TOWER 1</b>				8	126	77	9.5	PSR206	16	132	133	12.5	PSR206	4	114	187	15	PSR206	12	132	244	17	PSR206
2	PLUG				9	126	78	9.5	PSR206	17	132	134	12.5	PSR206	5	114	188	15	PSR206	13	132	245	17	PSR206
3	102 23	5.5	PSR210	10	132	79	9.5	PSR206	18	126	135	12.5	PSR206	6	120	189	15	PSR206	14	132	246	17	PSR206	
4	108 24	5	PSR210	11	132	80	10	PSR206	19	126	136	12.5	PSR206	7	120	190	15	PSR206	15	132	247	17	PSR206	
5	114 25	5	PSR210	12	132	81	10	PSR206	20	120	137	12.5	PSR206	8	126	191	15	PSR206	16	132	248	17	PSR206	
6	114 26	5	PSR210	13	132	82	10	PSR206	21	120	138	13	PSR206	9	126	192	15	PSR206	17	132	249	17.5	PSR206	
7	120 27	5.5	PSR210	14	132	83	10	PSR206	22	114	139	13	PSR206	10	132	193	15	PSR206	18	126	250	17	PSR206	
8	120 28	5.5	PSR210	15	132	84	10	PSR206	23	114	140	13	PSR206	11	132	194	15	PSR206	19	126	251	17.5	PSR206	
9	126 29	5.5	PSR210	16	132	85	10	PSR206	24	108	141	13	PSR206	12	132	195	15.5	PSR206	20	120	252	17.5	PSR206	
10	126 30	5.5	PSR210	17	132	86	10	PSR206	25	102	142	14	PSR206	13	132	196	15	PSR206	21	120	253	17.5	PSR206	
11	132 31	5.5	PSR210	18	126	87	10	PSR206	14					14	132	197	15.5	PSR206	22	114	254	17.5	PSR206	
12	132 32	5.5	PSR210	19	126	88	10	PSR206	1	PLUG				15	132	198	15.5	PSR206	23	114	255	17.5	PSR206	
13	132 33	6	PSR210	20	120	89	10	PSR206	2	102	143	14.5	PSR206	16	132	199	15.5	PSR206	24	108	256	19	PSR206	
14	132 34	6	PSR210	21	120	90	10.5	PSR206	3	108	144	13	PSR206	17	132	200	15.5	PSR206	25					
15	132 35	6	PSR210	22	114	91	10.5	PSR206	4	114	145	13	PSR206	18	126	201	15.5	PSR206						
16	132 36	6	PSR210	23	114	92	10.5	PSR206	5	114	146	13	PSR206	19	126	202	15.5	PSR206	1	102	257	19	PSR206	
17	132 37	6	PSR210	24	108	93	10.5	PSR206	6	120	147	13.5	PSR206	20	120	203	15.5	PSR206	2	102	258	17.5	PSR206	
18	132 38	6	PSR210	25	102	94	11.5	PSR206	7	120	148	13	PSR206	21	120	204	15.5	PSR206	3	102	259	17.5	PSR206	
19	126 39	6	PSR210						8	126	149	13	PSR206	22	114	205	15.5	PSR206	4	102	260	17.5	PSR206	
20	120 41	6.5	PSR210	1	102	95	11.5	PSR206	10	126	151	13.5	PSR206	23	114	206	15.5	PSR206	5	102	261	18	PSR206	
21	120 42	6.5	PSR210	2	108	96	11	PSR206	11	126	152	13.5	PSR206	24	108	207	16	PSR206	6	102	262	18	PSR206	
22	114 43	6.5	PSR210	4	114	97	11	PSR206	12	126	153	13.5	PSR206											
23	114 44	6.5	PSR210	5	114	98	11	PSR206	13	126	154	13.5	PSR206	1	102	209	17.5	PSR206						
24	108 45	6.5	PSR210	6	120	99	11	PSR206	14	120	155	13.5	PSR206	2	108	210	16	PSR206						
25	102 46	7.5	PSR210	7	120	100	11	PSR206	15	120	156	13.5	PSR206	3	102	210	16	PSR206						
1	<b>TOWER 2</b>				8	126	101	11	PSR206	16	114	157	13.5	PSR206	4	114	211	16	PSR206					
2	PLUG				9	126	102	11	PSR206	17	114	158	13.5	PSR206	5	114	212	16	PSR206					
3	102 47	7.5	PSR210	10	132	103	11	PSR206	18	108	159	14	PSR206	6	120	213	16	PSR206						
4	108 48	7	PSR210	11	132	104	11	PSR206	19	102	160	15	PSR206	7	120	214	16	PSR206						

# NORTHWEST IRRIGATION

1880 SOUTH RANGE AVENUE  
COLBY, KANSAS 67701

SEPTEMBER 22, 2025  
WISH-119607  
PIONEER FEEDYARD  
SECTION 15-11-32  
800 gpm @ 30 psi

LINDSAY GEN II - 90  
SENNINGER UP3 LDN SPRAY NOZZLES  
SENNINGER 10 & 6 PSI REGULATORS  
POLYFLEX DROPS  
NO ENDGUN

Rotation time at 100% = 18.19 Hours Or 1091 minutes

## Nozzle Difference

Previous chart: WISH-119535 900 gpm @ 33 psi

Current chart: WISH-119607 800 gpm @ 30 psi

<u>Nozzle Type and Size</u>	<u>Difference</u>	<u>Previous WISH Printouts</u>
SENNINGER UP3 5 BEIGE	4	WISH-119535 900 gpm @ 33 PSI AUGUST 29, 2025
SENNINGER UP3 6 GOLD	2	WISH-105554 900 gpm @ 37 PSI JULY 14, 2022
SENNINGER UP3 7 LIME	2	WISH-85148 1000 gpm @ 42 PSI NOVEMBER 04, 2016
SENNINGER UP3 7.5 LIME	2	WISH-85141 1000 gpm @ 40 PSI NOVEMBER 02, 2016
SENNINGER UP3 9 GREY	1	
SENNINGER UP3 9.5 GREY	7	
SENNINGER UP3 10 TURQUOISE	5	
SENNINGER UP3 11 YELLOW	4	
SENNINGER UP3 11.5 YELLOW	4	
SENNINGER UP3 12.5 RED	5	
SENNINGER UP3 13.5 WHITE	1	
SENNINGER UP3 14 BLUE	2	
SENNINGER UP3 14.5 BLUE	3	
SENNINGER UP3 15.5 DK BROWN	2	
SENNINGER UP3 16.5 ORANGE	2	
SENNINGER UP3 17 DK GREEN	3	
<b>Total:</b>	<b>49</b>	

PRECIPITATION CHART FOR FULL CIRCLE

WISH-119607

SEPTEMBER 22, 2025

DEALER - NORTHWEST IRRIGATION

IRRIGATOR - PIONEER FEEDYARD  
FIELD - SECTION 15-11-32

TOTAL LENGTH PIPE = 1972.47    SYSTEM PRESSURE = 30 PSI  
 GPM UNDER PIPE = 800.17    TOTAL GPM = 800.17  
 ACRES UNDER PIPE = 280.60  
 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
.11	100.00	18.19 - 1091(min)	100.00	.11	18.19 - 1091(min)
.20	57.29	31.74	90.00	.13	20.21
.25	45.83	39.68	80.00	.14	22.73
.30	38.20	47.61	70.00	.16	25.98
.40	28.65	63.48	60.00	.19	30.31
.50	22.92	79.35	50.00	.23	36.37
.60	19.10	95.22	45.00	.25	40.41
.70	16.37	111.09	40.00	.29	45.46
.75	15.28	119.03	35.00	.33	51.96
.80	14.32	126.97	30.00	.38	60.62
.90	12.73	142.84	25.00	.46	72.74
1.00	11.46	158.71	20.00	.57	90.93
1.25	9.17	198.38	15.00	.76	121.24
1.50	7.64	238.06	10.00	1.15	181.85
1.75	6.55	277.74	5.00	2.29	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.

## DEALER - NORTHWEST IRRIGATION

IRRIGATOR - PIONEER FEEDYARD  
FIELD - SECTION 15-11-32

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

## SUMMARY OF DROPS

27 - 102 IN DROP - 96  
 21 - 108 IN DROP - 102  
 44 - 114 IN DROP - 108  
 44 - 120 IN DROP - 114  
 46 - 126 IN DROP - 120  
 80 - 132 IN DROP - 126

TOTAL OF 262 DROPS

POLYFLEX DROPS - 8 IN HOSE PLASTIC MALE