

FREY PIVOT SERVICE

SEPTEMBER 30, 2025

WISH-119641

CUSTOMER : ROBBI SMITH

LINDSAY 9500 - 30
15 TOWER - 2589.71 FT
SYSTEM 1600 GPM @ 52 PSI

LEGAL : JOHANSON 1
P.O. NO. : S/N LB5564

SENNINGER UP3 XCEL TOP
SENNINGER 10 PSI REGULATORS
NELSON SR-100 .75 TB
ELEVATION 12 FT UP, 12 FT DOWN

77 COUNTY ROAD 40
STAPLETON, NEBRASKA 69163
(308)636-2327

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.

<u>DEALER</u>			<u>IRRIGATOR</u>			
FREY PIVOT SERVICE			ROBBI SMITH			
77 COUNTY ROAD 40			JOHANSON 1			
STAPLETON, NEBRASKA 69163			S/N LB5564			
TOTAL TARGET GPM	1600.00	FRICTION FACTOR USED	138	SPANS	LENGTH	PIPE I.D.
TOP OF PIVOT PRESSURE	52.00	TOTAL LENGTH	2589.71	1	181.60	7.782
ENDGUN TARGET GPM	127.40	NUMBER OF TOWERS	15	8	179.00	7.782
NUMBER OF OUTLETS	1054	NUMBER OF SPRINKLERS	261	2	157.04	7.782
				4	157.04	6.395
SENNINGER UP3 XCEL TOP				OH	33.87	5.369
SENNINGER PSR-2 10 PSI SERIES REGULATORS						
ELEVATION IS 12 FT UP AND 12 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. 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.
49		120.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42
50		122.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43
51		125.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44
52	14.68	127.69	0.82	0.85	48.75	11.40	XCEL	TOP	UP3	6	GOLD						8	SPSR2-10	
53		130.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45
54		132.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46
55		135.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47
56		137.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48
57		139.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49
58	14.64	142.33	0.91	0.85	48.66	11.40	XCEL	TOP	UP3	6	GOLD						9	SPSR2-10	
59		144.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50
60		147.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51
61		149.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52
62		152.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53
63		154.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54
64	14.68	157.01	1.01	1.00	48.64	11.40	XCEL	TOP	UP3	6.5	GOLD						10	SPSR2-10	
65		159.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55
66		161.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56
67		164.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57
68		166.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58
69		169.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59
70	14.68	171.69	1.03	1.00	48.68	11.40	XCEL	TOP	UP3	6.5	GOLD						11	SPSR2-10	
71		174.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60
72		176.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61
73		179.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62
TOWER 1	181.60	181.60																	
74		181.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63
75	12.81	184.50	1.01	1.00	48.43	11.40	XCEL	TOP	UP3	6.5	GOLD						12	SPSR2-10	
76		186.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64
77		189.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65
78		191.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66
79		194.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67
80	12.17	196.67	1.05	1.00	48.04	11.40	XCEL	TOP	UP3	6.5	GOLD						13	SPSR2-10	
81		199.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68
82		201.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69
83		204.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70
84		206.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71
85	12.26	208.93	1.12	1.16	47.56	11.40	XCEL	TOP	UP3	7	LIME						14	SPSR2-10	
86		211.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72
87		213.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73
88		216.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74
89		218.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75
90	12.26	221.19	1.18	1.16	47.12	11.40	XCEL	TOP	UP3	7	LIME						15	SPSR2-10	
91		223.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76
92		226.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77
93		228.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78
94		230.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79
95	12.14	233.33	1.25	1.16	46.73	11.40	XCEL	TOP	UP3	7	LIME						16	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.
144	12.34	353.19	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	119
145		355.69	1.95	1.93	45.18	11.40	XCEL	TOP	UP3	9	GREY		26	SPSR2-10		
146		358.02	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	120
TOWER 2	179.00	360.60														
147	12.64	360.92	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	121
148		363.50	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	122
149		365.83	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	123
150	12.26	368.33	2.01	1.93	44.95	11.40	XCEL	TOP	UP3	9	GREY		27	SPSR2-10		
151		370.83	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	124
152		373.25	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	125
153	12.26	375.67	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	126
154		378.17	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	127
155		380.59	2.05	2.16	44.45	11.38	XCEL	TOP	UP3	9.5	GREY		28	SPSR2-10		
156	12.26	383.01	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	128
157		385.51	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	129
158		387.93	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	130
159	12.26	390.35	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	131
160		392.85	2.10	2.16	43.99	11.38	XCEL	TOP	UP3	9.5	GREY		29	SPSR2-10		
161		395.27	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	132
162	12.17	397.69	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	133
163		400.19	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	134
164		402.69	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	135
165	12.23	405.02	2.17	2.16	43.58	11.38	XCEL	TOP	UP3	9.5	GREY		30	SPSR2-10		
166		407.50	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	136
167		409.83	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	137
168	12.26	412.33	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	138
169		414.83	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	139
170		417.25	2.24	2.16	43.22	11.38	XCEL	TOP	UP3	9.5	GREY		31	SPSR2-10		
171	12.26	419.67	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	140
172		422.17	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	141
173		424.59	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	142
174	12.18	427.01	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	143
175		429.51	2.30	2.39	42.89	11.36	XCEL	TOP	UP3	10	TURQUOISE		32	SPSR2-10		
176		431.93	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	144
177	12.14	434.35	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	145
178		436.85	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	146
179		439.27	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	147
180	12.34	441.69	2.35	2.39	42.62	11.36	XCEL	TOP	UP3	10	TURQUOISE		33	SPSR2-10		
181		444.19	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	148
182		446.69	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	149
183	12.14	449.02	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	150
184		451.50	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	151
185		453.83	2.43	2.39	42.39	11.36	XCEL	TOP	UP3	10	TURQUOISE		34	SPSR2-10		
186	12.34	456.33	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	152
187		458.83	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	153
188		461.25	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	154
189	12.34	463.67	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	155
190		466.17	2.50	2.39	42.20	11.36	XCEL	TOP	UP3	10	TURQUOISE		35	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.
286		701.35	-	-	-	-	-	-	-	-	-	-	-	-	229
287		703.85	-	-	-	-	-	-	-	-	-	-	-	-	230
288	9.76	706.27	3.02	2.89	38.83	11.31	XCEL	TOP	UP3	11	YELLOW		58	SPSR2-10	
289		708.69	-	-	-	-	-	-	-	-	-	-	-	-	231
290		711.19	-	-	-	-	-	-	-	-	-	-	-	-	232
291		713.69	-	-	-	-	-	-	-	-	-	-	-	-	233
292	9.75	716.02	3.15	3.15	38.72	11.28	XCEL	TOP	UP3	11.5	YELLOW		59	SPSR2-10	
TOWER 4	179.00	718.60													
293		718.92	-	-	-	-	-	-	-	-	-	-	-	-	234
294		721.50	-	-	-	-	-	-	-	-	-	-	-	-	235
295		723.83	-	-	-	-	-	-	-	-	-	-	-	-	236
296	10.31	726.33	3.21	3.15	38.55	11.28	XCEL	TOP	UP3	11.5	YELLOW		60	SPSR2-10	
297		728.83	-	-	-	-	-	-	-	-	-	-	-	-	237
298		731.25	-	-	-	-	-	-	-	-	-	-	-	-	238
299		733.67	-	-	-	-	-	-	-	-	-	-	-	-	239
300	9.84	736.17	3.16	3.15	38.17	11.28	XCEL	TOP	UP3	11.5	YELLOW		61	SPSR2-10	
301		738.59	-	-	-	-	-	-	-	-	-	-	-	-	240
302		741.01	-	-	-	-	-	-	-	-	-	-	-	-	241
303		743.51	-	-	-	-	-	-	-	-	-	-	-	-	242
304	9.76	745.93	3.19	3.15	37.81	11.28	XCEL	TOP	UP3	11.5	YELLOW		62	SPSR2-10	
305		748.35	-	-	-	-	-	-	-	-	-	-	-	-	243
306		750.85	-	-	-	-	-	-	-	-	-	-	-	-	244
307		753.27	-	-	-	-	-	-	-	-	-	-	-	-	245
308	9.76	755.69	3.24	3.16	37.48	11.28	XCEL	TOP	UP3	11.5	YELLOW		63	SPSR2-10	
309		758.19	-	-	-	-	-	-	-	-	-	-	-	-	246
310		760.69	-	-	-	-	-	-	-	-	-	-	-	-	247
311		763.02	-	-	-	-	-	-	-	-	-	-	-	-	248
312	9.81	765.50	3.28	3.16	37.18	11.28	XCEL	TOP	UP3	11.5	YELLOW		64	SPSR2-10	
313		767.83	-	-	-	-	-	-	-	-	-	-	-	-	249
314		770.33	-	-	-	-	-	-	-	-	-	-	-	-	250
315		772.83	-	-	-	-	-	-	-	-	-	-	-	-	251
316	9.75	775.25	3.32	3.44	36.91	11.26	XCEL	TOP	UP3	12	RED		65	SPSR2-10	
317		777.67	-	-	-	-	-	-	-	-	-	-	-	-	252
318		780.17	-	-	-	-	-	-	-	-	-	-	-	-	253
319		782.59	-	-	-	-	-	-	-	-	-	-	-	-	254
320	9.76	785.01	3.37	3.44	36.67	11.26	XCEL	TOP	UP3	12	RED		66	SPSR2-10	
321		787.51	-	-	-	-	-	-	-	-	-	-	-	-	255
322		789.93	-	-	-	-	-	-	-	-	-	-	-	-	256
323		792.35	-	-	-	-	-	-	-	-	-	-	-	-	257
324	9.84	794.85	3.43	3.44	36.46	11.26	XCEL	TOP	UP3	12	RED		67	SPSR2-10	
325		797.27	-	-	-	-	-	-	-	-	-	-	-	-	258
326		799.69	-	-	-	-	-	-	-	-	-	-	-	-	259
327		802.19	-	-	-	-	-	-	-	-	-	-	-	-	260
328	9.84	804.69	3.44	3.44	36.28	11.26	XCEL	TOP	UP3	12	RED		68	SPSR2-10	
329		807.02	-	-	-	-	-	-	-	-	-	-	-	-	261
330		809.50	-	-	-	-	-	-	-	-	-	-	-	-	262
331		811.83	-	-	-	-	-	-	-	-	-	-	-	-	263
332	9.64	814.33	3.48	3.44	36.13	11.26	XCEL	TOP	UP3	12	RED		69	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.						
333		816.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	264
334		819.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	265
335		821.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	266
336	9.84	824.17					3.54	3.44	36.00	11.26	XCEL	TOP	UP3	12	RED								70	SPSR2-10				
337		826.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	267
338		829.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	268
339		831.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269
340	9.76	833.93					3.57	3.44	35.91	11.26	XCEL	TOP	UP3	12	RED								71	SPSR2-10				
341		836.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	270
342		838.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	271
343		841.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	272
344	9.76	843.69					3.62	3.73	35.84	11.23	XCEL	TOP	UP3	12.5	RED								72	SPSR2-10				
345		846.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	273
346		848.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274
347		851.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	275
348	9.81	853.50					3.66	3.73	35.81	11.23	XCEL	TOP	UP3	12.5	RED								73	SPSR2-10				
349		855.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	276
350		858.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	277
351		860.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	278
352	9.75	863.25					3.69	3.73	35.80	11.23	XCEL	TOP	UP3	12.5	RED								74	SPSR2-10				
353		865.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	279
354		868.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	280
355		870.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	281
356	9.76	873.01					3.75	3.73	35.83	11.23	XCEL	TOP	UP3	12.5	RED								75	SPSR2-10				
357		875.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	282
358		877.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	283
359		880.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	284
360	9.84	882.85					3.81	3.73	35.88	11.23	XCEL	TOP	UP3	12.5	RED								76	SPSR2-10				
361		885.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	285
362		887.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	286
363		890.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	287
364	9.84	892.69					3.91	4.03	35.84	11.20	XCEL	TOP	UP3	13	WHITE								77	SPSR2-10				
365		895.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	288
TOWER 5	179.00	897.60																										
366		897.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	289
367		900.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	290
368	10.14	902.83					3.95	4.03	35.69	11.20	XCEL	TOP	UP3	13	WHITE								78	SPSR2-10				
369		905.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	291
370		907.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	292
371		910.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	293
372	9.84	912.67					3.94	4.03	35.37	11.20	XCEL	TOP	UP3	13	WHITE								79	SPSR2-10				
373		915.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	294
374		917.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	295
375		920.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	296
376	9.84	922.51					3.96	4.03	35.02	11.20	XCEL	TOP	UP3	13	WHITE								80	SPSR2-10				
377		924.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	297
378		927.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	298
379		929.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	299

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.
570		1397.83	-	-	-	-	-	-	-	-	-	-	-	-	442
571		1400.25	-	-	-	-	-	-	-	-	-	-	-	-	443
572	9.84	1402.67	6.05	6.04	28.58	10.91	XCEL	TOP	UP3	16	ORANGE		129	SPSR2-10	
573		1405.17	-	-	-	-	-	-	-	-	-	-	-	-	444
574		1407.59	-	-	-	-	-	-	-	-	-	-	-	-	445
575		1410.01	-	-	-	-	-	-	-	-	-	-	-	-	446
576	9.84	1412.51	6.07	6.04	28.66	10.91	XCEL	TOP	UP3	16	ORANGE		130	SPSR2-10	
577		1414.93	-	-	-	-	-	-	-	-	-	-	-	-	447
578		1417.35	-	-	-	-	-	-	-	-	-	-	-	-	448
579		1419.85	-	-	-	-	-	-	-	-	-	-	-	-	449
580	9.76	1422.27	6.08	6.04	28.77	10.91	XCEL	TOP	UP3	16	ORANGE		131	SPSR2-10	
581		1424.69	-	-	-	-	-	-	-	-	-	-	-	-	450
582		1427.19	-	-	-	-	-	-	-	-	-	-	-	-	451
583		1429.69	-	-	-	-	-	-	-	-	-	-	-	-	452
584	9.75	1432.02	6.30	6.40	28.72	10.85	XCEL	TOP	UP3	16.5	ORANGE		132	SPSR2-10	
TOWER 8	179.00	1434.60													
585		1434.92	-	-	-	-	-	-	-	-	-	-	-	-	453
586		1437.50	-	-	-	-	-	-	-	-	-	-	-	-	454
587		1439.83	-	-	-	-	-	-	-	-	-	-	-	-	455
588	10.31	1442.33	6.37	6.41	28.62	10.85	XCEL	TOP	UP3	16.5	ORANGE		133	SPSR2-10	
589		1444.83	-	-	-	-	-	-	-	-	-	-	-	-	456
590		1447.25	-	-	-	-	-	-	-	-	-	-	-	-	457
591		1449.67	-	-	-	-	-	-	-	-	-	-	-	-	458
592	9.84	1452.17	6.24	6.40	28.30	10.85	XCEL	TOP	UP3	16.5	ORANGE		134	SPSR2-10	
593		1454.59	-	-	-	-	-	-	-	-	-	-	-	-	459
594		1457.01	-	-	-	-	-	-	-	-	-	-	-	-	460
595		1459.51	-	-	-	-	-	-	-	-	-	-	-	-	461
596	9.76	1461.93	6.26	6.40	28.00	10.85	XCEL	TOP	UP3	16.5	ORANGE		135	SPSR2-10	
597		1464.35	-	-	-	-	-	-	-	-	-	-	-	-	462
598		1466.85	-	-	-	-	-	-	-	-	-	-	-	-	463
599		1469.27	-	-	-	-	-	-	-	-	-	-	-	-	464
600	9.76	1471.69	6.31	6.40	27.74	10.85	XCEL	TOP	UP3	16.5	ORANGE		136	SPSR2-10	
601		1474.19	-	-	-	-	-	-	-	-	-	-	-	-	465
602		1476.69	-	-	-	-	-	-	-	-	-	-	-	-	466
603		1479.02	-	-	-	-	-	-	-	-	-	-	-	-	467
604	9.81	1481.50	6.35	6.41	27.50	10.85	XCEL	TOP	UP3	16.5	ORANGE		137	SPSR2-10	
605		1483.83	-	-	-	-	-	-	-	-	-	-	-	-	468
606		1486.33	-	-	-	-	-	-	-	-	-	-	-	-	469
607		1488.83	-	-	-	-	-	-	-	-	-	-	-	-	470
608	9.75	1491.25	6.38	6.41	27.30	10.85	XCEL	TOP	UP3	16.5	ORANGE		138	SPSR2-10	
609		1493.67	-	-	-	-	-	-	-	-	-	-	-	-	471
610		1496.17	-	-	-	-	-	-	-	-	-	-	-	-	472
611		1498.59	-	-	-	-	-	-	-	-	-	-	-	-	473
612	9.76	1501.01	6.45	6.41	27.12	10.85	XCEL	TOP	UP3	16.5	ORANGE		139	SPSR2-10	
613		1503.51	-	-	-	-	-	-	-	-	-	-	-	-	474
614		1505.93	-	-	-	-	-	-	-	-	-	-	-	-	475
615		1508.35	-	-	-	-	-	-	-	-	-	-	-	-	476
616	9.84	1510.85	6.52	6.41	26.98	10.85	XCEL	TOP	UP3	16.5	ORANGE		140	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.
759		1861.59	-	-	-	-	-	-	-	-	-	-	-	-	584
760	9.76	1864.01	7.97	7.95	24.27	10.57	XCEL	TOP	UP3	18.5	PURPLE		176	SPSR2-10	
761		1866.43	-	-	-	-	-	-	-	-	-	-	-	-	585
762		1868.93	-	-	-	-	-	-	-	-	-	-	-	-	586
763		1871.35	-	-	-	-	-	-	-	-	-	-	-	-	587
764	9.76	1873.77	8.03	7.95	24.29	10.57	XCEL	TOP	UP3	18.5	PURPLE		177	SPSR2-10	
765		1876.27	-	-	-	-	-	-	-	-	-	-	-	-	588
766		1878.77	-	-	-	-	-	-	-	-	-	-	-	-	589
767		1881.10	-	-	-	-	-	-	-	-	-	-	-	-	590
768	9.81	1883.58	8.07	7.95	24.35	10.57	XCEL	TOP	UP3	18.5	PURPLE		178	SPSR2-10	
769		1885.91	-	-	-	-	-	-	-	-	-	-	-	-	591
770		1888.41	-	-	-	-	-	-	-	-	-	-	-	-	592
771		1890.91	-	-	-	-	-	-	-	-	-	-	-	-	593
772	9.75	1893.33	8.09	7.95	24.45	10.57	XCEL	TOP	UP3	18.5	PURPLE		179	SPSR2-10	
773		1895.75	-	-	-	-	-	-	-	-	-	-	-	-	594
774		1898.25	-	-	-	-	-	-	-	-	-	-	-	-	595
775		1900.67	-	-	-	-	-	-	-	-	-	-	-	-	596
776	9.76	1903.09	8.17	8.35	24.59	10.49	XCEL	TOP	UP3	19	BLACK		180	SPSR2-10	
777		1905.59	-	-	-	-	-	-	-	-	-	-	-	-	597
778		1908.01	-	-	-	-	-	-	-	-	-	-	-	-	598
779		1910.43	-	-	-	-	-	-	-	-	-	-	-	-	599
780	9.84	1912.93	8.25	8.35	24.76	10.50	XCEL	TOP	UP3	19	BLACK		181	SPSR2-10	
781		1915.35	-	-	-	-	-	-	-	-	-	-	-	-	600
782		1917.77	-	-	-	-	-	-	-	-	-	-	-	-	601
783		1920.27	-	-	-	-	-	-	-	-	-	-	-	-	602
784	9.84	1922.77	8.41	8.35	24.87	10.50	XCEL	TOP	UP3	19	BLACK		182	SPSR2-10	
785		1925.10	-	-	-	-	-	-	-	-	-	-	-	-	603
TOWER 11	157.04	1927.68	PIPE ID CHANGES FROM 7.782 TO 6.395												
786		1928.00	-	-	-	-	-	-	-	-	-	-	-	-	604
787		1930.58	-	-	-	-	-	-	-	-	-	-	-	-	605
788	10.14	1932.91	8.46	8.35	24.73	10.50	XCEL	TOP	UP3	19	BLACK		183	SPSR2-10	
789		1935.41	-	-	-	-	-	-	-	-	-	-	-	-	606
790		1937.91	-	-	-	-	-	-	-	-	-	-	-	-	607
791		1940.33	-	-	-	-	-	-	-	-	-	-	-	-	608
792	9.84	1942.75	8.38	8.35	24.40	10.50	XCEL	TOP	UP3	19	BLACK		184	SPSR2-10	
793		1945.25	-	-	-	-	-	-	-	-	-	-	-	-	609
794		1947.67	-	-	-	-	-	-	-	-	-	-	-	-	610
795		1950.09	-	-	-	-	-	-	-	-	-	-	-	-	611
796	9.84	1952.59	8.38	8.35	24.05	10.50	XCEL	TOP	UP3	19	BLACK		185	SPSR2-10	
797		1955.01	-	-	-	-	-	-	-	-	-	-	-	-	612
798		1957.43	-	-	-	-	-	-	-	-	-	-	-	-	613
799		1959.93	-	-	-	-	-	-	-	-	-	-	-	-	614
800	9.76	1962.35	8.39	8.35	23.74	10.50	XCEL	TOP	UP3	19	BLACK		186	SPSR2-10	
801		1964.77	-	-	-	-	-	-	-	-	-	-	-	-	615
802		1967.27	-	-	-	-	-	-	-	-	-	-	-	-	616
803		1969.77	-	-	-	-	-	-	-	-	-	-	-	-	617
804	9.75	1972.10	8.46	8.35	23.48	10.50	XCEL	TOP	UP3	19	BLACK		187	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.
900	9.75	2207.41	9.44	9.60	21.46	10.27	XCEL	TOP	UP3	20.5	DK	TURQ	211	SPSR2-10	
901		2209.83	-	-	-	-	-	-	-	-	-	-	-	-	690
902		2212.33	-	-	-	-	-	-	-	-	-	-	-	-	691
903		2214.75	-	-	-	-	-	-	-	-	-	-	-	-	692
904	9.76	2217.17	9.52	9.60	21.59	10.27	XCEL	TOP	UP3	20.5	DK	TURQ	212	SPSR2-10	
905		2219.67	-	-	-	-	-	-	-	-	-	-	-	-	693
906		2222.09	-	-	-	-	-	-	-	-	-	-	-	-	694
907		2224.51	-	-	-	-	-	-	-	-	-	-	-	-	695
908	9.84	2227.01	9.60	9.60	21.76	10.27	XCEL	TOP	UP3	20.5	DK	TURQ	213	SPSR2-10	
909		2229.43	-	-	-	-	-	-	-	-	-	-	-	-	696
910		2231.85	-	-	-	-	-	-	-	-	-	-	-	-	697
911		2234.35	-	-	-	-	-	-	-	-	-	-	-	-	698
912	9.84	2236.85	9.79	9.60	21.86	10.28	XCEL	TOP	UP3	20.5	DK	TURQ	214	SPSR2-10	
913		2239.18	-	-	-	-	-	-	-	-	-	-	-	-	699
TOWER 13	157.04	2241.76													
914		2242.08	-	-	-	-	-	-	-	-	-	-	-	-	700
915		2244.66	-	-	-	-	-	-	-	-	-	-	-	-	701
916	10.14	2246.99	8.64	8.76	21.80	10.42	XCEL	TOP	UP3	19.5	BLACK		215	SPSR2-10	
917		2249.49	-	-	-	-	-	-	-	-	-	-	-	-	702
918		2251.99	-	-	-	-	-	-	-	-	-	-	-	-	703
919	7.42	2254.41	7.29	7.16	21.61	10.71	XCEL	TOP	UP3	17.5	DK	GREEN	216	SPSR2-10	
920		2256.83	-	-	-	-	-	-	-	-	-	-	-	-	704
921		2259.33	-	-	-	-	-	-	-	-	-	-	-	-	705
922	7.34	2261.75	7.28	7.16	21.40	10.71	XCEL	TOP	UP3	17.5	DK	GREEN	217	SPSR2-10	
923		2264.17	-	-	-	-	-	-	-	-	-	-	-	-	706
924		2266.67	-	-	-	-	-	-	-	-	-	-	-	-	707
925	7.34	2269.09	7.30	7.16	21.20	10.71	XCEL	TOP	UP3	17.5	DK	GREEN	218	SPSR2-10	
926		2271.51	-	-	-	-	-	-	-	-	-	-	-	-	708
927		2274.01	-	-	-	-	-	-	-	-	-	-	-	-	709
928	7.34	2276.43	7.37	7.55	21.03	10.64	XCEL	TOP	UP3	18	PURPLE		219	SPSR2-10	
929		2278.85	-	-	-	-	-	-	-	-	-	-	-	-	710
930		2281.35	-	-	-	-	-	-	-	-	-	-	-	-	711
931	7.42	2283.85	7.29	7.16	20.88	10.71	XCEL	TOP	UP3	17.5	DK	GREEN	220	SPSR2-10	
932		2286.18	-	-	-	-	-	-	-	-	-	-	-	-	712
933		2288.67	-	-	-	-	-	-	-	-	-	-	-	-	713
934	7.15	2291.00	7.32	7.16	20.76	10.71	XCEL	TOP	UP3	17.5	DK	GREEN	221	SPSR2-10	
935		2293.50	-	-	-	-	-	-	-	-	-	-	-	-	714
936		2296.00	-	-	-	-	-	-	-	-	-	-	-	-	715
937	7.42	2298.42	7.48	7.55	20.65	10.64	XCEL	TOP	UP3	18	PURPLE		222	SPSR2-10	
938		2300.84	-	-	-	-	-	-	-	-	-	-	-	-	716
939		2303.34	-	-	-	-	-	-	-	-	-	-	-	-	717
940	7.42	2305.84	7.39	7.55	20.57	10.64	XCEL	TOP	UP3	18	PURPLE		223	SPSR2-10	
941		2308.17	-	-	-	-	-	-	-	-	-	-	-	-	718
942		2310.70	-	-	-	-	-	-	-	-	-	-	-	-	719
943	7.19	2313.03	7.41	7.55	20.51	10.64	XCEL	TOP	UP3	18	PURPLE		224	SPSR2-10	
944		2315.53	-	-	-	-	-	-	-	-	-	-	-	-	720
945		2318.03	-	-	-	-	-	-	-	-	-	-	-	-	721
946	7.42	2320.45	7.50	7.55	20.47	10.64	XCEL	TOP	UP3	18	PURPLE		225	SPSR2-10	

[illegible]

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.
TOWER 15	157.04	2555.84	PIPE ID CHANGES FROM 6.395 TO 5.369																
1042	9.53	2557.96	9.44	9.60	20.89	10.27	XCEL	TOP	UP3	20.5	DK	TURQ		257	SPSR2-10				
1043		2560.29	-	-	-	-	-	-	-	-	-	-	-	-	-	786			
1044		2562.79	-	-	-	-	-	-	-	-	-	-	-	-	-	787			
1045	7.33	2565.29	8.19	8.35	20.88	10.49	XCEL	TOP	UP3	19	BLACK		258	SPSR2-10					
1046		2567.71	-	-	-	-	-	-	-	-	-	-	-	-	-	788			
1047		2570.13	-	-	-	-	-	-	-	-	-	-	-	-	-	789			
1048	7.34	2572.63	8.16	8.35	20.87	10.49	XCEL	TOP	UP3	19	BLACK		259	SPSR2-10					
1049		2575.13	-	-	-	-	-	-	-	-	-	-	-	-	-	790			
1050		2577.46	-	-	-	-	-	-	-	-	-	-	-	-	-	791			
1051	7.33	2579.96	8.17	8.35	20.86	10.49	XCEL	TOP	UP3	19	BLACK		260	SPSR2-10					
1052		2582.46	-	-	-	-	-	-	-	-	-	-	-	-	-	792			
1053		2584.96	-	-	-	-	-	-	-	-	-	-	-	-	-	793			
1054	7.50	2587.46	8.30	8.35	20.85	10.50	XCEL	TOP	UP3	19	BLACK		261	SPSR2-10					
OVERHANG	33.87	2589.71	126.09 ENDGUN (1) NELSON SR-100 .75 TB																
LINDSAY 5HP BOOSTER PUMP																			

BOOSTER PUMP AT END ADDS 40.59 PSI TO PIPE PRESSURE FOR A PRESSURE OF 61.44 PSI
 FRICTION LOSS THROUGH ENDGUN VALVE IS 1.23 PSI - ENDGUN PRESSURE IS 60.21 PSI

TOTAL GPM = 1600.59
 GPA = 3.04

MINIMUM RECOMMENDED REGULATOR INLET PRESSURE IS 15.00 PSI
 WITH GRADUATED ELEVATION OF 12.00 FT THE INLET PRESSURE IS 15.04 PSI FOR SPRINKLER 247
 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	7.24	9.97	38%	4.19	0.009	0.33	0.44	0.56
2	7.00	21.31	21.33	0%	3.05	0.007	0.24	0.32	0.40
3	11.62	35.38	34.98	-1%	3.01	0.007	0.24	0.32	0.40
4	16.24	49.45	49.33	0%	3.04	0.007	0.24	0.32	0.40
5	20.86	63.52	63.24	0%	3.03	0.007	0.24	0.32	0.40
6	25.49	77.59	77.41	0%	3.04	0.007	0.24	0.32	0.40
7	30.11	91.66	91.28	0%	3.03	0.007	0.24	0.32	0.40
8	34.73	105.74	105.83	0%	3.05	0.007	0.24	0.32	0.40
9	39.35	119.81	120.16	0%	3.05	0.007	0.24	0.32	0.40
10	38.33	116.70	117.01	0%	3.05	0.007	0.24	0.32	0.40
11	41.89	127.53	127.07	0%	3.03	0.007	0.24	0.32	0.40
12	45.44	138.36	137.69	0%	3.03	0.007	0.24	0.32	0.40
13	49.00	149.19	148.71	0%	3.03	0.007	0.24	0.32	0.40

14	52.56	160.02	159.61	0%	3.04	0.007	0.24	0.32	0.40
15	56.12	170.85	170.61	0%	3.04	0.007	0.24	0.32	0.40
OVERHANG	12.57	38.27	40.29	5%	3.21	0.007	0.25	0.34	0.42
ENDGUN	40.51	127.40	126.09	2%	3.11				
TOTAL	524.20	1600.00	1600.59		3.05				

SUMMARY OF SPRINKLERS

9 XCEL TOP UP3 6 GOLD
4 XCEL TOP UP3 6.5 GOLD
3 XCEL TOP UP3 7 LIME
2 XCEL TOP UP3 7.5 LIME
3 XCEL TOP UP3 8 LAVENDER
3 XCEL TOP UP3 8.5 LAVENDER
3 XCEL TOP UP3 9 GREY
4 XCEL TOP UP3 9.5 GREY
8 XCEL TOP UP3 10 TURQUOISE
11 XCEL TOP UP3 10.5 TURQ
8 XCEL TOP UP3 11 YELLOW
6 XCEL TOP UP3 11.5 YELLOW
7 XCEL TOP UP3 12 RED
5 XCEL TOP UP3 12.5 RED
9 XCEL TOP UP3 13 WHITE
8 XCEL TOP UP3 13.5 WHITE
8 XCEL TOP UP3 14 BLUE
7 XCEL TOP UP3 14.5 BLUE
7 XCEL TOP UP3 15 DK BROWN
10 XCEL TOP UP3 15.5 DK BROWN
6 XCEL TOP UP3 16 ORANGE
11 XCEL TOP UP3 16.5 ORANGE
7 XCEL TOP UP3 17 DK GREEN
16 XCEL TOP UP3 17.5 DK GREEN
23 XCEL TOP UP3 18 PURPLE
29 XCEL TOP UP3 18.5 PURPLE
16 XCEL TOP UP3 19 BLACK
9 XCEL TOP UP3 19.5 BLACK
13 XCEL TOP UP3 20 DK TURQUOISE
6 XCEL TOP UP3 20.5 DK TURQ

793 PLUGS**SUMMARY OF REGULATORS**

261 Senn PSR2 10 psi

TOTAL OF 261 REGULATORS

NOZZLE POSITION CHART

XCEL TOP UP3 6 GOLD	1, 2, 3, 4, 5, 6, 7, 8, 9
XCEL TOP UP3 6.5 GOLD	10, 11, 12, 13
XCEL TOP UP3 7 LIME	14, 15, 16
XCEL TOP UP3 7.5 LIME	17, 18
XCEL TOP UP3 8 LAVENDER	19, 20, 21
XCEL TOP UP3 8.5 LAVENDER	22, 23, 24
XCEL TOP UP3 9 GREY	25, 26, 27
XCEL TOP UP3 9.5 GREY	28, 29, 30, 31
XCEL TOP UP3 10 TURQUOISE	32, 33, 34, 35, 42, 43, 44, 45
XCEL TOP UP3 10.5 TURQ	36, 37, 38, 39, 41, 46, 47, 48, 49, 50, 51
XCEL TOP UP3 11 YELLOW	40, 52, 53, 54, 55, 56, 57, 58
XCEL TOP UP3 11.5 YELLOW	59, 60, 61, 62, 63, 64
XCEL TOP UP3 12 RED	65, 66, 67, 68, 69, 70, 71
XCEL TOP UP3 12.5 RED	72, 73, 74, 75, 76
XCEL TOP UP3 13 WHITE	77, 78, 79, 80, 81, 82, 83, 84, 85
XCEL TOP UP3 13.5 WHITE	86, 87, 88, 89, 90, 91, 92, 93
XCEL TOP UP3 14 BLUE	94, 95, 96, 97, 98, 99, 100, 101
XCEL TOP UP3 14.5 BLUE	102, 103, 104, 105, 106, 107, 109
XCEL TOP UP3 15 DK BROWN	108, 110, 111, 112, 113, 115, 116
XCEL TOP UP3 15.5 DK BROWN	114, 117, 118, 119, 120, 121, 122, 123, 124, 125
XCEL TOP UP3 16 ORANGE	126, 127, 128, 129, 130, 131
XCEL TOP UP3 16.5 ORANGE	132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142
XCEL TOP UP3 17 DK GREEN	143, 144, 145, 146, 147, 148, 149
XCEL TOP UP3 17.5 DK GREEN	150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 216, 217, 218, 220, 221
XCEL TOP UP3 18 PURPLE	161, 162, 163, 164, 165, 166, 168, 169, 170, 219, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234
XCEL TOP UP3 18.5 PURPLE	167, 171, 172, 173, 174, 175, 176, 177, 178, 179, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253
XCEL TOP UP3 19 BLACK	180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 254, 255, 258, 259, 260, 261
XCEL TOP UP3 19.5 BLACK	190, 191, 192, 193, 194, 195, 196, 197, 215
XCEL TOP UP3 20 DK TURQUOISE	198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 256
XCEL TOP UP3 20.5 DK TURQ	210, 211, 212, 213, 214, 257

FREY PIVOT SERVICE
77 COUNTY ROAD 40
STAPLETON, NEBRASKA 69163

SEPTEMBER 30, 2025
WISH-119641
ROBBI SMITH
JOHANSON 1
1600 GPM @ 52 PSI

LINDSAY 9500 - 30
SENNINGER 10 PSI REGULATORS
NO DROPS
NELSON SR-100 .75 TB

Rotation time at 100% = 21.94 Hours Or 1316 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	1	6	PSR210	61	PLUG	10	6.5	PSR210	47	21	8	PSR210	33	PLUG	33	10	PSR210	19	PLUG	46	10.5	PSR210	
2	PLUG				62	PLUG				48				PLUG	34				PLUG	20				PLUG
3	PLUG				63	PLUG				49				PLUG	35				PLUG	21				PLUG
4	PLUG				64	PLUG				50				PLUG	36				PLUG	22				PLUG
5	PLUG				65	PLUG				51				PLUG	37				PLUG	23				PLUG
6	PLUG				66	PLUG				52				PLUG	38				PLUG	24				PLUG
7	PLUG				67	PLUG				53				PLUG	39				PLUG	25				PLUG
8	PLUG				68	PLUG				54				PLUG	40				PLUG	26				PLUG
9	PLUG				69	PLUG				55				PLUG	41				PLUG	27				PLUG
10	PLUG				70	PLUG				56				PLUG	42				PLUG	28				PLUG
11	PLUG	2	6	PSR210	71	PLUG	11	6.5	PSR210	57	23	8.5	PSR210	43	PLUG	35	10	PSR210	29	PLUG	48	10.5	PSR210	
12	PLUG				72	PLUG				58				PLUG	44				PLUG	30				PLUG
13	PLUG				73	PLUG				59				PLUG	45				PLUG	31				PLUG
14	PLUG				73	PLUG				60				PLUG	46				PLUG	32				PLUG
15	PLUG				1	TOWER 1				61				PLUG	47				PLUG	33				PLUG
16	PLUG				2	PLUG				62				PLUG	48				PLUG	34				PLUG
17	PLUG				3	PLUG				63				PLUG	49				PLUG	35				PLUG
18	PLUG				4	PLUG				64				PLUG	50				PLUG	36				PLUG
19	PLUG				5	PLUG				65				PLUG	51				PLUG	37				PLUG
20	PLUG				6	PLUG				66				PLUG	52				PLUG	38				PLUG
21	PLUG	3	6	PSR210	7	13	6.5	PSR210	67	25	9	PSR210	53	PLUG	37	10.5	PSR210	39	PLUG	51	10.5	PSR210		
22	PLUG				8				PLUG				68	PLUG				54	PLUG				40	PLUG
23	PLUG				9				PLUG				69	PLUG				55	PLUG				41	PLUG
24	PLUG				10				PLUG				70	PLUG				56	PLUG				42	PLUG
25	PLUG				11				PLUG				71	PLUG				57	PLUG				43	PLUG
26	PLUG				12				PLUG				72	PLUG				58	PLUG				44	PLUG
27	PLUG				13				PLUG				73	PLUG				59	PLUG				45	PLUG
28	PLUG				14				PLUG				73	TOWER 2				60	PLUG				46	PLUG
29	PLUG				15				PLUG				1	PLUG				61	PLUG				47	PLUG
30	PLUG				16				PLUG				2	PLUG				62	PLUG				48	PLUG
31	PLUG	4	6	PSR210	17	15	7	PSR210	3	27	9	PSR210	63	PLUG	39	10.5	PSR210	49	PLUG	53	11	PSR210		
32	PLUG				18				PLUG				4	PLUG				64	PLUG				50	PLUG
33	PLUG				19				PLUG				5	PLUG				65	PLUG				51	PLUG
34	PLUG				20				PLUG				6	PLUG				66	PLUG				52	PLUG
35	PLUG				21				PLUG				7	PLUG				67	PLUG				53	PLUG
36	PLUG				22				PLUG				8	PLUG				68	PLUG				54	PLUG
37	PLUG				23				PLUG				9	PLUG				69	PLUG				55	PLUG
38	PLUG				24				PLUG				10	PLUG				70	PLUG				56	PLUG
39	PLUG				25				PLUG				11	PLUG				71	PLUG				57	PLUG
40	PLUG				26				PLUG				12	PLUG				72	PLUG				58	PLUG
41	PLUG	5	6	PSR210	27	17	7.5	PSR210	13	29	9.5	PSR210	73	TOWER 3	41	10.5	PSR210	59	PLUG	56	11	PSR210		
42	PLUG				28				PLUG				14	PLUG				1	PLUG				60	PLUG
43	PLUG				29				PLUG				15	PLUG				2	PLUG				61	PLUG
44	PLUG				30				PLUG				16	PLUG				3	PLUG				62	PLUG
45	PLUG				31				PLUG				17	PLUG				4	PLUG				63	PLUG
46	PLUG				32				PLUG				18	PLUG				5	PLUG				64	PLUG
47	PLUG				33				PLUG				19	PLUG				6	PLUG				65	PLUG
48	PLUG				34				PLUG				20	PLUG				7	PLUG				66	PLUG
49	PLUG				35				PLUG				21	PLUG				8	PLUG				67	PLUG
50	PLUG				36				PLUG				22	PLUG				9	PLUG				68	PLUG
51	PLUG	6	6	PSR210	37	19	8	PSR210	23	31	9.5	PSR210	9	43	10	PSR210	69	PLUG	58	11	PSR210			
52	PLUG				38				PLUG				24				PLUG	10				PLUG	70	PLUG
53	PLUG				39				PLUG				25				PLUG	11				PLUG	71	PLUG
54	PLUG				40				PLUG				26				PLUG	12				PLUG	72	PLUG
55	PLUG				41				PLUG				27				PLUG	13				PLUG	73	PLUG
56	PLUG				42				PLUG				28				PLUG	14				PLUG	73	TOWER 4
57	PLUG				43				PLUG				29				PLUG	15				PLUG	1	PLUG
58	PLUG				44				PLUG				30				PLUG	16				PLUG	2	PLUG
59	PLUG				45				PLUG				31				PLUG	17				PLUG	3	PLUG
60	PLUG				46				PLUG				32				PLUG	18				PLUG	4	PLUG

FREY PIVOT SERVICE
77 COUNTY ROAD 40
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WISH-119641
ROBBI SMITH
JOHANSON 1
1600 GPM @ 52 PSI

SENNINGER 10 PSI REGULATORS
NO DROPS
NELSON SR-100 .75 TB

Rotation time at 100% = 21.94 Hours Or 1316 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	Out #	Drop Len	Sprk #	Noz Size	Reg
5	PLUG				65	PLUG				51					37	PLUG				23	PLUG			
6	PLUG				66	PLUG				52	PLUG	90	13.5	PSR210	38		105	14.5	PSR210	24	PLUG			
7	PLUG				67	PLUG				53	PLUG				39	PLUG				25		120	15.5	PSR210
8		61	11.5	PSR210	68		76	12.5	PSR210	54	PLUG				40	PLUG				26	PLUG			
9	PLUG				69	PLUG				55		91	13.5	PSR210	41	PLUG				27	PLUG			
10	PLUG				70	PLUG				56	PLUG				42		106	14.5	PSR210	28	PLUG			
11	PLUG				71	PLUG				57	PLUG				43	PLUG				29		121	15.5	PSR210
12		62	11.5	PSR210	72		77	13	PSR210	58	PLUG				44	PLUG				30	PLUG			
13	PLUG				73	PLUG				59		92	13.5	PSR210	45	PLUG				31	PLUG			
14	PLUG				TOWER 5					60	PLUG				46		107	14.5	PSR210	32	PLUG			
15	PLUG				1	PLUG				61	PLUG				47	PLUG				33		122	15.5	PSR210
16		63	11.5	PSR210	2	PLUG				62	PLUG				48	PLUG				34	PLUG			
17	PLUG				3		78	13	PSR210	63		93	13.5	PSR210	49	PLUG				35	PLUG			
18	PLUG				4	PLUG				64	PLUG				50		108	15	PSR210	36	PLUG			
19	PLUG				5	PLUG				65	PLUG				51	PLUG				37		123	15.5	PSR210
20		64	11.5	PSR210	6	PLUG				66	PLUG				52	PLUG				38	PLUG			
21	PLUG				7		79	13	PSR210	67		94	14	PSR210	53	PLUG				39	PLUG			
22	PLUG				8	PLUG				68	PLUG				54		109	14.5	PSR210	40	PLUG			
23	PLUG				9	PLUG				69	PLUG				55	PLUG				41		124	15.5	PSR210
24		65	12	PSR210	10	PLUG				70	PLUG				56	PLUG				42	PLUG			
25	PLUG				11		80	13	PSR210	71		95	14	PSR210	57	PLUG				43	PLUG			
26	PLUG				12	PLUG				72	PLUG				58		110	15	PSR210	44	PLUG			
27	PLUG				13	PLUG				73	PLUG				59	PLUG				45		125	15.5	PSR210
28		66	12	PSR210	14	PLUG				TOWER 6					60	PLUG				46	PLUG			
29	PLUG				15		81	13	PSR210	1	PLUG				61	PLUG				47	PLUG			
30	PLUG				16	PLUG				2		96	14	PSR210	62		111	15	PSR210	48	PLUG			
31	PLUG				17	PLUG				3	PLUG				63	PLUG				49		126	16	PSR210
32		67	12	PSR210	18	PLUG				4	PLUG				64	PLUG				50	PLUG			
33	PLUG				19		82	13	PSR210	5	PLUG				65	PLUG				51	PLUG			
34	PLUG				20	PLUG				6		97	14	PSR210	66		112	15	PSR210	52	PLUG			
35	PLUG				21	PLUG				7	PLUG				67	PLUG				53		127	16	PSR210
36		68	12	PSR210	22	PLUG				8	PLUG				68	PLUG				54	PLUG			
37	PLUG				23		83	13	PSR210	9	PLUG				69	PLUG				55	PLUG			
38	PLUG				24	PLUG				10		98	14	PSR210	70		113	15	PSR210	56	PLUG			
39	PLUG				25	PLUG				11	PLUG				71	PLUG				57		128	16	PSR210
40		69	12	PSR210	26	PLUG				12	PLUG				72	PLUG				58	PLUG			
41	PLUG				27		84	13	PSR210	13	PLUG				73	PLUG				59	PLUG			
42	PLUG				28	PLUG				14		99	14	PSR210	TOWER 7					60	PLUG			
43	PLUG				29	PLUG				15	PLUG				1		114	15.5	PSR210	61		129	16	PSR210
44		70	12	PSR210	30	PLUG				16	PLUG				2	PLUG				62	PLUG			
45	PLUG				31		85	13	PSR210	17	PLUG				3	PLUG				63	PLUG			
46	PLUG				32	PLUG				18		100	14	PSR210	4	PLUG				64	PLUG			
47	PLUG				33	PLUG				19	PLUG				5		115	15	PSR210	65		130	16	PSR210
48		71	12	PSR210	34	PLUG				20	PLUG				6	PLUG				66	PLUG			
49	PLUG				35		86	13.5	PSR210	21	PLUG				7	PLUG				67	PLUG			
50	PLUG				36	PLUG				22		101	14	PSR210	8	PLUG				68	PLUG			
51	PLUG				37	PLUG				23	PLUG				9		116	15	PSR210	69		131	16	PSR210
52		72	12.5	PSR210	38	PLUG				24	PLUG				10	PLUG				70	PLUG			
53	PLUG				39		87	13.5	PSR210	25	PLUG				11	PLUG				71	PLUG			
54	PLUG				40	PLUG				26		102	14.5	PSR210	12	PLUG				72	PLUG			
55	PLUG				41	PLUG				27	PLUG				13		117	15.5	PSR210	73		132	16.5	PSR210
56		73	12.5	PSR210	42	PLUG				28	PLUG				14	PLUG				TOWER 8				
57	PLUG				43		88	13.5	PSR210	29	PLUG				15	PLUG				1	PLUG			
58	PLUG				44	PLUG				30		103	14.5	PSR210	16	PLUG				2	PLUG			
59	PLUG				45	PLUG				31	PLUG				17		118	15.5	PSR210	3	PLUG			
60		74	12.5	PSR210	46	PLUG				32	PLUG				18	PLUG				4		133	16.5	PSR210
61	PLUG				47		89	13.5	PSR210	33	PLUG				19	PLUG				5	PLUG			
62	PLUG				48	PLUG				34		104	14.5	PSR210	20	PLUG				6	PLUG			
63	PLUG				49	PLUG				35	PLUG				21		119	15.5	PSR210	7	PLUG			
64		75	12.5	PSR210	50	PLUG				36	PLUG				22	PLUG				8		134	16.5	PSR210

FREY PIVOT SERVICE

77 COUNTY ROAD 40

STAPLETON, NEBRASKA 69163

LINDSAY 9500 - 30

SEPTEMBER 30, 2025

WISH-119641

ROBBI SMITH

JOHANSON 1

1600 GPM @ 52 PSI

SENNINGER 10 PSI REGULATORS

NO DROPS

NELSON SR-100 .75 TB

Rotation time at 100% = 21.94 Hours Or 1316 minutes

Installation Chart

Page 3

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
9	PLUG				69	PLUG				55		164	18	PSR210	50	PLUG				44	PLUG			
10	PLUG				70	PLUG				56	PLUG				51		179	18.5	PSR210	45	PLUG			
11	PLUG				71	PLUG				57	PLUG				52	PLUG				46	PLUG			
12		135	16.5	PSR210	72		150	17.5	PSR210	58	PLUG				53	PLUG				47		194	19.5	PSR210
13	PLUG				73	PLUG				59		165	18	PSR210	54	PLUG				48	PLUG			
14	PLUG				TOWER 9					60	PLUG				55		180	19	PSR210	49	PLUG			
15	PLUG				1	PLUG				61	PLUG				56	PLUG				50	PLUG			
16		136	16.5	PSR210	2	PLUG				62	PLUG				57	PLUG				51		195	19.5	PSR210
17	PLUG				3		151	17.5	PSR210	63		166	18	PSR210	58	PLUG				52	PLUG			
18	PLUG				4	PLUG				64	PLUG				59		181	19	PSR210	53	PLUG			
19	PLUG				5	PLUG				TOWER 10					60	PLUG				54	PLUG			
20		137	16.5	PSR210	6	PLUG				1	PLUG				61	PLUG				55		196	19.5	PSR210
21	PLUG				7		152	17.5	PSR210	2	PLUG				62	PLUG				56	PLUG			
22	PLUG				8	PLUG				3		167	18.5	PSR210	63		182	19	PSR210	57	PLUG			
23	PLUG				9	PLUG				4	PLUG				64	PLUG				58	PLUG			
24		138	16.5	PSR210	10	PLUG				5	PLUG				TOWER 11					59		197	19.5	PSR210
25	PLUG				11		153	17.5	PSR210	6	PLUG				1	PLUG				60	PLUG			
26	PLUG				12	PLUG				7		168	18	PSR210	2	PLUG				61	PLUG			
27	PLUG				13	PLUG				8	PLUG				3		183	19	PSR210	62	PLUG			
28		139	16.5	PSR210	14	PLUG				9	PLUG				4	PLUG				63		198	20	PSR210
29	PLUG				15		154	17.5	PSR210	10	PLUG				5	PLUG				64	PLUG			
30	PLUG				16	PLUG				11		169	18	PSR210	6	PLUG				TOWER 12				
31	PLUG				17	PLUG				12	PLUG				7		184	19	PSR210	1	PLUG			
32		140	16.5	PSR210	18	PLUG				13	PLUG				8	PLUG				2	PLUG			
33	PLUG				19		155	17.5	PSR210	14	PLUG				9	PLUG				3		199	20	PSR210
34	PLUG				20	PLUG				15		170	18	PSR210	10	PLUG				4	PLUG			
35	PLUG				21	PLUG				16	PLUG				11	PLUG				5	PLUG			
36		141	16.5	PSR210	22	PLUG				17	PLUG				12	PLUG				6	PLUG			
37	PLUG				23		156	17.5	PSR210	18	PLUG				13	PLUG				7		200	20	PSR210
38	PLUG				24	PLUG				19		171	18.5	PSR210	14	PLUG				8	PLUG			
39	PLUG				25	PLUG				20	PLUG				15	PLUG				9	PLUG			
40		142	16.5	PSR210	26	PLUG				21	PLUG				16	PLUG				10	PLUG			
41	PLUG				27		157	17.5	PSR210	22	PLUG				17	PLUG				11		201	20	PSR210
42	PLUG				28	PLUG				23		172	18.5	PSR210	18	PLUG				12	PLUG			
43	PLUG				29	PLUG				24	PLUG				19	PLUG				13	PLUG			
44		143	17	PSR210	30	PLUG				25	PLUG				20	PLUG				14	PLUG			
45	PLUG				31		158	17.5	PSR210	26	PLUG				21	PLUG				15		202	20	PSR210
46	PLUG				32	PLUG				27		173	18.5	PSR210	22	PLUG				16	PLUG			
47	PLUG				33	PLUG				28	PLUG				23	PLUG				17	PLUG			
48		144	17	PSR210	34	PLUG				29	PLUG				24	PLUG				18	PLUG			
49	PLUG				35		159	17.5	PSR210	30	PLUG				25	PLUG				19		203	20	PSR210
50	PLUG				36	PLUG				31		174	18.5	PSR210	26	PLUG				20	PLUG			
51	PLUG				37	PLUG				32	PLUG				27		189	19	PSR210	21	PLUG			
52		145	17	PSR210	38	PLUG				33	PLUG				28	PLUG				22	PLUG			
53	PLUG				39		160	17.5	PSR210	34	PLUG				29	PLUG				23		204	20	PSR210
54	PLUG				40	PLUG				35		175	18.5	PSR210	30	PLUG				24	PLUG			
55	PLUG				41	PLUG				36	PLUG				31	PLUG				25	PLUG			
56		146	17	PSR210	42	PLUG				37	PLUG				32	PLUG				26	PLUG			
57	PLUG				43		161	18	PSR210	38	PLUG				33	PLUG				27		205	20	PSR210
58	PLUG				44	PLUG				39		176	18.5	PSR210	34	PLUG				28	PLUG			
59	PLUG				45	PLUG				40	PLUG				35	PLUG				29	PLUG			
60		147	17	PSR210	46	PLUG				41	PLUG				36	PLUG				30	PLUG			
61	PLUG				47		162	18	PSR210	42	PLUG				37	PLUG				31		206	20	PSR210
62	PLUG				48	PLUG				43		177	18.5	PSR210	38	PLUG				32	PLUG			
63	PLUG				49	PLUG				44	PLUG				39	PLUG				33	PLUG			
64		148	17	PSR210	50	PLUG				45	PLUG				40	PLUG				34	PLUG			
65	PLUG				51		163	18	PSR210	46	PLUG				41	PLUG				35		207	20	PSR210
66	PLUG				52	PLUG				47		178	18.5	PSR210	42	PLUG				36	PLUG			
67	PLUG				53	PLUG				48	PLUG				43		193	19.5	PSR210	37	PLUG			
68		149	17	PSR210	54	PLUG				49	PLUG									38	PLUG			

FREY PIVOT SERVICE
77 COUNTY ROAD 40
STAPLETON, NEBRASKA 69163

SEPTEMBER 30, 2025
WISH-119641
ROBBI SMITH
JOHANSON 1
1600 GPM @ 52 PSI

LINDSAY 9500 - 30
SENNINGER 10 PSI REGULATORS
NO DROPS
NELSON SR-100 .75 TB

Rotation time at 100% = 21.94 Hours Or 1316 minutes

Installation Chart Page 4

Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg	Out #	Drop Len	Sprk #	Noz Size	Reg
39		208	20	PSR210	34	PLUG				29		245	18.5	PSR210
40	PLUG				35	PLUG				30	PLUG			
41	PLUG				36		226	18	PSR210	31	PLUG	246	18.5	PSR210
42	PLUG	209	20	PSR210	37	PLUG				32				
43					38	PLUG	227	18	PSR210	33	PLUG			
44	PLUG				39					34	PLUG	247	18.5	PSR210
45	PLUG				40	PLUG				35				
46	PLUG				41	PLUG				36	PLUG			
47		210	20.5	PSR210	42		228	18	PSR210	37	PLUG	248	18.5	PSR210
48	PLUG				43	PLUG				38				
49	PLUG				44	PLUG				39	PLUG			
50	PLUG				45		229	18	PSR210	40	PLUG			
51		211	20.5	PSR210	46	PLUG				41		249	18.5	PSR210
52	PLUG				47	PLUG				42	PLUG			
53	PLUG				48		230	18	PSR210	43	PLUG			
54	PLUG				49	PLUG				44		250	18.5	PSR210
55		212	20.5	PSR210	50	PLUG				45	PLUG			
56	PLUG				51		231	18	PSR210	46	PLUG			
57	PLUG				52	PLUG				47		251	18.5	PSR210
58	PLUG				53	PLUG				48	PLUG			
59		213	20.5	PSR210	54		232	18	PSR210	49	PLUG			
60	PLUG				55	PLUG				50		252	18.5	PSR210
61	PLUG				56	PLUG				51	PLUG			
62	PLUG				57		233	18	PSR210	52	PLUG			
63		214	20.5	PSR210	58	PLUG				53		253	18.5	PSR210
64	PLUG				59	PLUG				54	PLUG			
	TOWER 13				60		234	18	PSR210	55	PLUG			
1	PLUG				61	PLUG				56		254	19	PSR210
2	PLUG				62	PLUG				57	PLUG			
3		215	19.5	PSR210	63		235	18.5	PSR210	58	PLUG			
4	PLUG				64	PLUG				59		255	19	PSR210
5	PLUG					TOWER 14				60	PLUG			
6		216	17.5	PSR210	1	PLUG				61	PLUG			
7	PLUG				2		236	18.5	PSR210	62		256	20	PSR210
8	PLUG				3	PLUG				63	PLUG			
9		217	17.5	PSR210	4	PLUG				64	PLUG			
10	PLUG				5		237	18.5	PSR210		TOWER 15			
11	PLUG				6	PLUG				1		257	20.5	PSR210
12		218	17.5	PSR210	7	PLUG				2	PLUG			
13	PLUG				8		238	18.5	PSR210	3	PLUG			
14	PLUG				9	PLUG				4		258	19	PSR210
15		219	18	PSR210	10	PLUG				5	PLUG			
16	PLUG				11		239	18.5	PSR210	6	PLUG			
17	PLUG				12	PLUG				7		259	19	PSR210
18		220	17.5	PSR210	13	PLUG				8	PLUG			
19	PLUG				14		240	18.5	PSR210	9	PLUG			
20	PLUG				15	PLUG				10		260	19	PSR210
21		221	17.5	PSR210	16	PLUG				11	PLUG			
22	PLUG				17		241	18.5	PSR210	12	PLUG			
23	PLUG				18	PLUG				13		261	19	PSR210
24		222	18	PSR210	19	PLUG								
25	PLUG				20		242	18.5	PSR210					
26	PLUG				21	PLUG								
27		223	18	PSR210	22	PLUG								
28	PLUG				23		243	18.5	PSR210					
29	PLUG				24	PLUG								
30		224	18	PSR210	25	PLUG								
31	PLUG				26		244	18.5	PSR210					
32	PLUG				27	PLUG								
33		225	18	PSR210	28	PLUG								

PRECIPITATION CHART FOR FULL CIRCLE

WISH-119641

SEPTEMBER 30, 2025

DEALER - FREY PIVOT SERVICE

IRRIGATOR - ROBBI SMITH

FIELD - JOHANSON 1

TOTAL LENGTH PIPE = 2589.71 SYSTEM PRESSURE = 52 PSI
GPM UNDER PIPE = 1474.50 TOTAL GPM = 1600.59
ACRES UNDER PIPE = 483.69
RANGE OF ENDGUN = 106.28 RUN FOR MINIMUM PRESSURE
GPM OF ENDGUN = 126.09
ACRES UNDER ENDGUN = 40.51
WATERING LENGTH = 2695.99

MOTOR SIZE (HP) = 3/4
LOADED MOTOR RPM = 1750
CENTER GEAR BOX RATIO = 40
WHEEL GEAR BOX RATIO = 50
TIRE SIZE = 11.2 X 38
LAST TOWER SPEED (FPM) = 12.20

PRECIPITATION DATA FIGURED WITH ENDGUN RUNNING

PRECIPITATION BASED			% TIMER BASED		
PRECIPITATION INCHES	% TIMER SETTING	TIME HOURS	% TIMER SETTING	PRECIPITATION INCHES	TIME HOURS
.15	100.00	21.94 - 1316(min)	100.00	.15	21.94 - 1316(min)
.20	73.89	29.69	90.00	.16	24.38
.25	59.11	37.12	80.00	.18	27.42
.30	49.26	44.54	70.00	.21	31.34
.40	36.94	59.38	60.00	.25	36.56
.50	29.55	74.23	50.00	.30	43.88
.60	24.63	89.08	45.00	.33	48.75
.70	21.11	103.92	40.00	.37	54.85
.75	19.70	111.35	35.00	.42	62.68
.80	18.47	118.77	30.00	.49	73.13
.90	16.42	133.61	25.00	.59	87.75
1.00	14.78	148.46	20.00	.74	109.69
1.25	11.82	185.58	15.00	.99	146.26
1.50	9.85	222.69	10.00	1.48	219.38
1.75	8.44	259.81	5.00	2.96	438.77

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.