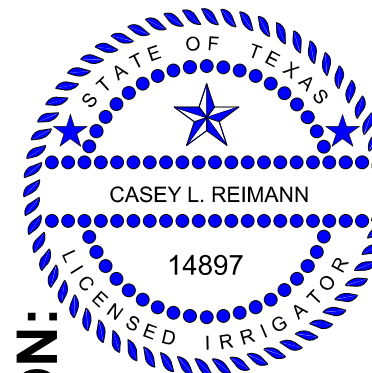




TEXAS
IRRIGATION
DESIGN

281 341-0499



SHEET DESCRIPTION:
IRRIGATION DESIGN

Casey Reimann
03/16/2014

PROJECT:
MICHAEL MONSIVE
HOCKLEY TX

REVISIONS:
AS BUILT

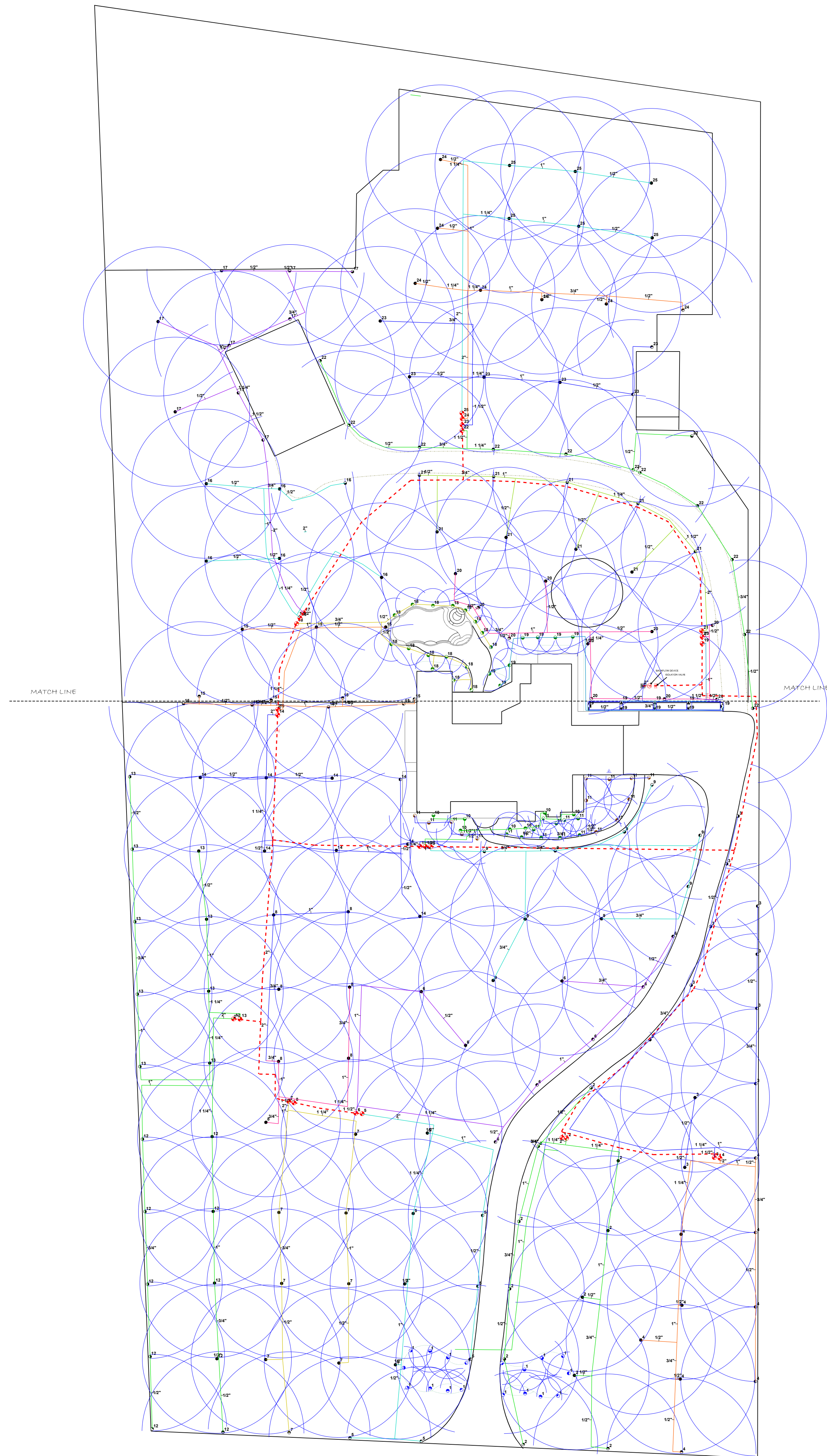
DATE:
10/27/2014

JOB NUMBER:
.

DRAWN BY:
CASEY REIMANN
CHECKED BY:
CLR

SCALE:
1" = 30'

SHEET:
1 of 1



Irrigation

Quantity	Symbol	Description	Part Number	Pressure	Flow	Radius
Sprinklers						
3		Hunter PGP-2.0 Blue - PGP-ADJ	2	45 psi	2 gpm	34 ft
10		Hunter PGP-2.5 Blue - PGP-ADJ	2.5	45 psi	2.5 gpm	35 ft
80		Hunter PGP-3.0 Blue - PGP-ADJ	3	45 psi	3 gpm	38 ft
82		Hunter PGP-6.0 Blue - PGP-ADJ	6	45 psi	6 gpm	43 ft
10		Rain Bird 10H - 1804	10H	30 psi	0.79 gpm	10 ft
8		Rain Bird 10Q - 1804	10Q	30 psi	0.39 gpm	10 ft
7		Rain Bird 12H - 1804	12H	30 psi	1.3 gpm	12 ft
6		Rain Bird 12O - 1804	12O	30 psi	0.65 gpm	12 ft
2		Rain Bird 15EST - 1804	15EST	30 psi	0.61 gpm	15 x 4 ft
6		Rain Bird 15SST - 1804	15SST	30 psi	1.21 gpm	30 x 4 ft
33		Rain Bird 8H - 1804	8H	30 psi	0.52 gpm	8 ft
7		Rain Bird 8Q - 1804	8Q	30 psi	0.26 gpm	8 ft

Meters/Pumps

1		Febcro 765 - 1 1/2"	765 - 1 1/2"
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Control Valves

5		Hunter PGV-100G-S	PGV-100G-S
20		Rain Bird PGA 1 1/2" Valves	HRB-150-FF-FC

Irrigation Accessories

4		Nibco 2" isolation valve	
1		Rain Bird ESP-LXD	ESP-LXD

Lateral Line Pipe

2592 ft		Class 315 1/2"	
1186 ft		Class 200 3/4"	
1421 ft		Class 200 1"	
1143 ft		Class 200 1 1/4"	
193 ft		Class 200 1 1/2"	
529 ft		Class 200 2"	

Mainline Pipe

1202 ft		Class 200 2"	
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Run Set: 2

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3.019 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 2 @ 41.5 gpm		Mainline Loss	1.71 psi
Valve Loss	3.515 psi		
Lateral Loss	4.222 psi		
Fittings Loss	0.593 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	57.464 psi		
Residual Pressure	7.536 psi		

Run Set: 9

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 9 @ 36 gpm		Mainline Loss	1.54 psi
Valve Loss	3.54 psi		
Lateral Loss	2.631 psi		
Fittings Loss	0.418 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	55.716 psi		
Residual Pressure	9.284 psi		

Run Set: 16

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 16 @ 36 gpm		Mainline Loss	1.32 psi
Valve Loss	3.54 psi		
Lateral Loss	4.358 psi		
Fittings Loss	0.568 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	57.218 psi		
Residual Pressure	7.782 psi		

Run Set: 23

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	1.558 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 23 @ 3.12 gpm		Mainline Loss	0.01 psi
Valve Loss	1.524 psi		
Lateral Loss	1.015 psi		
Fittings Loss	0.103 psi		
Elevation	0 psi		
Sprinkler Requirement	30 psi		
Total Design Pressure	34.11 psi		
Residual Pressure	30.89 psi		

Run Set: 3

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 3 @ 38.5 gpm		Mainline Loss	1.6 psi
Valve Loss	3.515 psi		
Lateral Loss	4.085 psi		
Fittings Loss	0.569 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	57.203 psi		
Residual Pressure	7.797 psi		

Run Set: 10

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 10 @ 39 gpm		Mainline Loss	1.71 psi
Valve Loss	3.51 psi		
Lateral Loss	3.46 psi		
Fittings Loss	0.517 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	56.678 psi		
Residual Pressure	8.322 psi		

Run Set: 17

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 17 @ 35 gpm		Mainline Loss	0.26 psi
Valve Loss	3.55 psi		
Lateral Loss	3.208 psi		
Fittings Loss	0.346 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	55.013 psi		
Residual Pressure	9.987 psi		

Run Set: 24

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	2.5 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 24 @ 13.95 gpm		Mainline Loss	0.21 psi
Valve Loss	1.663 psi		
Lateral Loss	2.954 psi		
Fittings Loss	0.316 psi		
Elevation	0 psi		
Sprinkler Requirement	30 psi		
Total Design Pressure	37.324 psi		
Residual Pressure	27.676 psi		

Run Set: 4

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 4 @ 38 gpm		Mainline Loss	1.19 psi
Valve Loss	3.52 psi		
Lateral Loss	3.782 psi		
Fittings Loss	0.497 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	56.495 psi		
Residual Pressure	8.505 psi		

Run Set: 11

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 11 @ 39 gpm		Mainline Loss	2.35 psi
Valve Loss	3.52 psi		
Lateral Loss	3.756 psi		
Fittings Loss	0.553 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	57.618 psi		
Residual Pressure	7.382 psi		

Run Set: 18

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 18 @ 35 gpm		Mainline Loss	1.02 psi
Valve Loss	3.57 psi		
Lateral Loss	3.426 psi		
Fittings Loss	0.444 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	55.992 psi		
Residual Pressure	9.008 psi		

Run Set: 25

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	2.5 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 25 @ 6.51 gpm		Mainline Loss	0.05 psi
Valve Loss	1.9 psi		
Lateral Loss	2.342 psi		
Fittings Loss	0.239 psi		
Elevation	0 psi		
Sprinkler Requirement	30 psi		
Total Design Pressure	36.792 psi		
Residual Pressure	28.208 psi		

Run Set: 5

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3.019 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 5 @ 41.5 gpm		Mainline Loss	1.91 psi
Valve Loss	3.515 psi		
Lateral Loss	4.209 psi		
Fittings Loss	0.612 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	57.658 psi		
Residual Pressure	7.342 psi		

Run Set: 12

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3.025 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 12 @ 42 gpm		Mainline Loss	2.1 psi
Valve Loss	3.51 psi		
Lateral Loss	3.425 psi		
Fittings Loss	0.553 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	57.071 psi		
Residual Pressure	7.929 psi		

Run Set: 19

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 19 @ 33 gpm		Mainline Loss	0.91 psi
Valve Loss	3.57 psi		
Lateral Loss	3.433 psi		
Fittings Loss	0.434 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	55.914 psi		
Residual Pressure	9.086 psi		

Run Set: 20

Water Source #1		Type	Pump
Pump Pressure	65 psi		

Mainline Components		Backflow Loss	3.012 psi
Master Valve Loss	0 psi		
Filter Loss	0 psi		

Zone 20 @ 41 gpm		Mainline Loss	2.71 psi
Valve Loss	3.51 psi		
Lateral Loss	4.333 psi		
Fittings Loss	0.705 psi		
Elevation	0 psi		
Sprinkler Requirement	45 psi		
Total Design Pressure	58.568 psi		
Residual Pressure	6.432 psi		

Sprinkler Zone Data

Zone #	Total Area	Total Flow	Precip Rate
1	1022 Sq/Ft	10.23 gpm	0.96 in/hr
2	12949.24 Sq/Ft	44.5 gpm	0.33 in/hr
3	9951.48 Sq/Ft	36 gpm	0.35 in/hr
4	11109.59 Sq/Ft	39 gpm	0.34 in/hr
5	12254.12 Sq/Ft	38.5 gpm	0.3 in/hr
6	12751.12 Sq/Ft	33 gpm	0.25 in/hr
7	13454.49 Sq/Ft	40 gpm	0.28 in/hr
8	14964.7 Sq/Ft	42 gpm	0.27 in/hr
9	11148.14 Sq/Ft	35.5 gpm	0.31 in/hr
10	1556.26 Sq/Ft	3.64 gpm	0.63 in/hr
11	1591.37 Sq/Ft	17.1 gpm	1.07 in/hr
12	11516.8 Sq/Ft	41.5 gpm	0.35 in/hr
13	11925.58 Sq/Ft	39 gpm	0.31 in/hr
14	14632.99 Sq/Ft	42 gpm	0.28 in/hr
15	14646.46 Sq/Ft	41 gpm	0.31 in/hr
16	11095.59 Sq/Ft	33 gpm	0.29 in/hr
17	11362.53 Sq/Ft	33 gpm	0.28 in/hr
18	10446.06 Sq/Ft	7.54 gpm	0.69 in/hr
19	720.37 Sq/Ft	11.86 gpm	1.59 in/hr
20	910.36 Sq/Ft	4 gpm	0.43 in/hr
21	10176.42 Sq/Ft	39 gpm	0.37 in/hr
22	13232.51 Sq/Ft	35 gpm	0.25 in/hr
23	12278.25 Sq/Ft	30 gpm	0.24 in/hr
24	1252.52 Sq/Ft	30 gpm	0.26 in/hr
25	11800.64 Sq/Ft	36 gpm	0.29 in/hr