LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: MID-ATLANTIC CUSTOM BUILDERS
Address: P.O. BOX 3792 Mooresville, NC 28117
Phone: 704-202-5568
County: Iredell
Location: WATERTREE LANDING LOT 57

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow: 480
System Flow: 25.42

Design Specifications

Drainfield Size: 270
Loading Rate (gpd/ft.^{2}): 0.3
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: 1000

Estimated Supply Line Length: 69
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 12.01
Dosing Volume: 149.54
Supply Manifold: N/A
Supply Manifold Length: N/A
Supply Manifold Volume: N/A

Recommended Float Controls: SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel: SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.

Pressure Head: 2 ft.
Friction Head: 0.88
Elevation Head: 2.00
Total Dynamic Head: 5.61

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

WATERTREE LANDING LOT 57
LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	810
TOTAL LATERAL LENGTH:	270
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	266.6666667
SUPPLY LINE LENGTH:	69
TOTAL DYNAMIC HEAD:	5.61
MANIFOLD SIZE:	N/A
DOSING VOLUME:	149.54
PUMP TANK DRAW DOWN*:	7.1
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

WATERTREE LANDING LOT 57

Project #: 01-1430

LAYOUT FOR 4 BEDROOM HOME

October 28, 2009

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		3.5			100.00		
INSTR. 1			103.50				
HOUSE CNR				7.20	96.30		
P. TANK				5.60	97.90		
1	BLUE			4.30	99.20	55	55
2	ORANGE			4.40	99.10	30	30
3	RED			4.20	99.30	67	67
4	PINK			4.30	99.20	85	85
5	ORANGE			3.20	100.30	82	82
6	RED			2.10	101.40	40	40
7	***PINK***			***4.30***	***99.20***	***80***	***80***
8	***ORANGE***			***5.60***	***97.90***	***100***	***100***
9	***BLUE***			***6.00***	***97.50***	***50***	***50***
10	***RED***			***6.30***	***97.20***	***40***	***40***
					Total	**629**	**629**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***270***	***0.3***	***MOD.***	***0.300***	***PPBPS***	***LOW PRESSURE***
Repair	359	0.3	MOD.	0.300	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground at EIP at corner of lot (see site plan)
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS, HI, and FS indicate rod readings

LP PPBPS TAPSHEET -WATERTREE LANDING LOT# 57

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
7	*PINK*	99.2	*80*	0.156	**0.41**	240	18
8	*ORANGE*	97.9	*100*	0.156	**0.41**	300	23
9	*BLUE*	97.5	*50*	0.156	**0.41**	150	12
10	*RED*	97.2	*40*	0.156	**0.41**	120	9
	total	**feet =**	270	**gal/min =**	**25.42**		62
			Des. Flow	**480**			
			Pump Run=	**5.88**			
			soil LTAR	**0.3**			
			LTAR +5%	**0.315**			
			LTAR with mod.	**0.6**			
			LTAR with mod., + 5%	**0.63**			

.156 equals 5/32 inch hole

CALCULATIONS

Location WATERTREE LANDING

Project Number 01-1430

Lot No: Lot 57

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.300 $^{gal}/_{ft^2\ day}$

PPBPS? (YES OR NO) YES

Supply Line Length 69 ft.

Supply Line Volume 12.006 gal.

Required Feet of Line 266.6667 ft.
Amount of Line from Layout 270 ft.

Gallons per Minute 25.42 $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Panel Volume 3.6 gal.
# of Panels 62
Dosing Volume 149.54 gal.

Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel

Tank Draw Down 7.1 *Generic Draw Down of 21 gal.per in.*

Pump Run Time 5.88 minutes

Elevation Head 2 ft.
Pressure Head 2 ft.
Friction Factor 1.27 ft./100 ft. *(From the interpolater.)*
Friction Head 0.88 ft.

Total Dynamic Head (+15%) 5.61 ft.

FRICTION FACTOR
INTERPOLATER
2" SCH 40 PVC

GPM	f
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42