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Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 5 bedroom single family residence on Lot 103 in Anniston Subdivision Iredell County, North Carolina.

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December 28, 2006
Project No.01-1005
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Anniston LLC

Address: 17824 Statesville Rd STE 112
Conover, NC 28031
Phone:
County: Iredell
Location: Anniston Subdivision Lot 103

Source of Wastewater Flow: 5 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 600 gpd
System Flow: 38.54

Design Specifications

Drainfield Size: 400
Loading Rate: .25 gpd/ft.^{2}
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1500 gal.
Pump Tank Size: 1500 gal.

Estimated Supply Line Length: 44
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 7.66
Dosing Volume: 226.73
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: 1.33
Elevation Head: 17.90
Total Dynamic Head: 24.42

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

ANNISTON LOT 103
LP PPBPS

DESIGN FLOW:	600
SOIL APPLICATION RATE:	.25 gpd/ft²
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400.00
SUPPLY LINE LENGTH:	44
TOTAL DYNAMIC HEAD:	24.42
MANIFOLD SIZE:	N/A
DOSING VOLUME:	226.73
PUMP TANK DRAW DOWN*:	10.8
SEPTIC TANK SIZE:	1500 gal.
PUMP TANK SIZE:	1500 gal.

**Pump tank draw down based on a volume basis of 31 gallons per inch. Draw down may vary among pump tank manufacturers.*

Anniston Lot 103

Project #:01-1005

LAYOUT FOR 5 BEDROOM HOME

December 28, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		19.8			100.00		
INSTR. 1			119.80				
HOUSE CNR				2.00	117.80		
P. TANK				2.40	117.40		
1	DARK PINK			5.50	114.30	45	45
2	***PINK***			***6.90***	***112.90***	***50***	***50***
3	***PINK***			***6.90***	***112.90***	***50***	***50***
4	***ORANGE***			***8.50***	***112.90***	***55***	***55***
5	***ORANGE***			***8.50***	***111.30***	***55***	***55***
6	***BLUE***			***10.20***	***109.60***	***95***	***95***
7	***BLUE***			***10.20***	***109.60***	***95***	***95***
8	DARK PINK			11.40	108.40	160	160
9	PINK			13.50	106.30	106	106
10	ORANGE			15.70	104.10	71	71
11	BLUE			17.60	102.20	54	54
					Total	**836**	**836**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR	TRENCH SYSTEM	DISTRIBUTION
** System*	***400***	***0.25***	***MOD.***	***0.250***	***PPBPS***	***LOW PRESSURE***
Repair	436	0.25	MOD.	0.25	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground (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 - Anniston Lot 98

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
2	PINK	112.90	*50*	0.156	0.41	150	12
3	PINK	112.90	*50*	0.156	0.41	150	12
4	ORANGE	111.30	*55*	0.156	0.41	165	13
5	ORANGE	111.30	*55*	0.156	0.41	165	13
6	BLUE	109.60	*95*	0.156	0.41	285	22
7	BLUE	109.60	*95*	0.156	0.41	285	22
	total	feet =	400	gal/min =	38.54		94

Des. Flow	600
Pump Run=	5.88
soil LTAR	0.25
LTAR +5%	0.2625
LTAR with mod.	0.27
LTAR with mod.. + 5%	0.2835

.156 equals 5/32 inch hole

CALCULATIONS

Location Anniston Subdivision

Project Number 01-1005

Lot No: 103

No. of Bedrooms	5
Design Flow	600 $^{gal}/_{day}$
LTAR	0.25 $^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES
Supply Line Length	44 ft.
Supply Line Volume	7.656 gal.
Required Feet of Line	400 ft.
Amount of Line from Layout	400 ft.
Gallons per Minute	38.54 $^{gal}/_{min}$

Note: Flow/hole (.41gpm) x # of panels

Required Septic Tank Capacity	1500 gal.
Minimum Standard Tank Size	1500 gal.
Panel Volume	3.6 gal.
# of Panels	94
Dosing Volume	227 gal.

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

Tank Draw Down	10.8 *Generic Draw Down of 3 gal.per in.*
Pump Run Time	5.88 minutes
Elevation Head	17.9 ft.
Pressure Head	2 ft.
Friction Factor	3.03 ft./100 ft. *(From the interpolater.)*
Friction Head	1.33 ft.
Total Dynamic Head (+15%)	24.42 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