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Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 4 bedroom single family residence on Lot 50 in Anniston Subdivision Iredell County, North Carolina.

Contents:

	Page
Information for the Installer	1
Design Information	
Design Specifications	2-3
Layout Specifications	4
System Tapsheet	5
Site Plan/System Plan	6
Calculations	7
Profile Descriptions	8

LICENSED SOIL SCIENTIST
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1231
NORTH CAROLINA

July 31, 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., Suite 112 Cornelius, NC 28031
Phone:	(704) 362-5007
County:	Iredell
Location:	Anniston Subdivision Lot 50
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	34.251

Design Specifications

Drainfield Size:	362
Loading Rate:	.225 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:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	110
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	19.14
Dosing Volume:	202.61
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:	2.61
Elevation Head:	9.20
Total Dynamic Head:	15.88
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 50
LP PPBPS

DESIGN FLOW:	480
SOIL APPLICATION RATE:	.225 gpd/ft²
TOTAL AREA TRENCH BOTTOM:	1086
TOTAL LATERAL LENGTH:	362
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	355.56
SUPPLY LINE LENGTH:	110
TOTAL DYNAMIC HEAD:	15.88
MANIFOLD SIZE:	N/A
DOSING VOLUME:	202.61
PUMP TANK DRAW DOWN*:	9.6
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.*

Anniston Lot 50

Project #:01-1005

LAYOUT FOR 4 BEDROOM HOME

July 31, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		3.1			100.00		
INSTR. 1			103.10				
HOUSE CNR				10.10	93.00		
P. TANK				10.20	92.90		
1	RED			3.50	99.60	44	44
2	ORANGE			4.40	98.70	84	84
3	BLUE			5.20	97.90	92	92
4	***PINK***			***6.00***	***97.10***	***94***	***94***
5	***RED***			***6.70***	***96.40***	***95***	***95***
6	***ORANGE***			***7.60***	***95.50***	***102***	***100***
7	***BLUE***			***8.50***	***94.60***	*73*	*73*
8	PINK			9.40	93.70	*75*	*75*
9	RED			10.30	92.80	*63*	*63*
					Total	722	720

289
73
362

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR	TRENCH SYSTEM	DISTRIBUTION
** System*	*362*	*0.221*	*MOD.*	*0.225*	*PPBPS*	*LOW PRESSURE*
Repair	358	0.223	MOD.	0.225	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 50

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
4	***PINK***	97.1	***94***	0.156	**0.41**	282	22
5	***RED***	96.4	***95***	0.156	**0.41**	285	22
6	***ORANGE***	95.5	***100***	0.156	**0.41**	300	23
7	***BLUE***	94.6	***73***	0.156	**0.41**	219	17
							84
	total	**feet =**	**362**	**gal/min =**	**34.250769**		
			Des. Flow	**480**			
			Pump Run=	**5.92**			
			soil LTAR	**0.225**			
			LTAR +5%	**0.23625**			
			LTAR with mod.	**0.45**			
			LTAR with mod.. + 5%	**0.4725**			

.156 equals 5/32 inch hole

CALCULATIONS

Location Anniston Subdivision

Project Number 01-1005

Lot No: Lot 50

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.225	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	110	ft.
Supply Line Volume	19.14	gal.
Required Feet of Line	355.56	ft.
Amount of Line from Layout	362	ft.
Gallons per Minute	34.25	$^{gal}/_{min}$
	Note: Flow/hole (.41gpm) x # of panels	
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	84	
Dosing Volume	203	gal.
	Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel	
Tank Draw Down	9.6	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.92	minutes
Elevation Head	9.2	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	2.61	ft.
Total Dynamic Head (+15%)	15.88	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