SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

A design for a Pressure Dosed 4-Bedroom PPBPS Septic System:
Lot 194-Kemp Road Mooresville, NC
Parcel ID #4626140097

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704-239-2001

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill
- Installation of the system shall be during dry conditions in order to protect the soil
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- **System and repair are specified as pressure dosed panel**
- **2' wide trenches to be used, trenches raked and limed as per manufacturer**
- **Iredell Co has approval to move tanks or other system elements from locations indicated in design.**
- Existing well to be successfully abandoned; new well required meeting setbacks
- **Bottom blue line >25' from basement. Gar/porch staked in orng. Basement in pink**

PRESSURE DOSED PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Glenn Palehonki
Address:	124 Lakeview Shores LP
	Mooresville, NC 28117
Phone:	
County:	Iredell
Location:	Lot 194 Kemp Road
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	24.19

Design Specifications

Drainfield Size:	267
Loading Rate:	0.3 gpd/ft.^{2}
Depth of Gravel in Trench:	n/a
Gravel Size:	n/a
Trench Depth:	30
Trench Width:	24 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	85
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	14.79
Dosing Volume:	212.40

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:	3.39
Elevation Head:	12.00
Total Dynamic Head:	20.00
Threaded Union:	In Tank
Gate Valves:	1 in Tank
	4 in valve box
Check Valves:	In Tank
Anti-Siphon Hole:	n/a
Recommended Pump:	Effluent Rated Pump Capable of Delivering 20 ft.of Head @ 24gpm Total Flow

OK 8-15-14

Lot 194 Kemp Road

PPBPS DESIGN

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}
TOTAL AREA TRENCH BOTTOM:	534
TOTAL LATERAL LENGTH:	267
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	267
SUPPLY LINE LENGTH:	85
TOTAL DYNAMIC HEAD:	20.00
DOSING VOLUME:	212.40
PUMP TANK DRAW DOWN*:	10.1
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.*

OK 8/11/14

Lot 194 Kemp Road

Layout for a 4 bedroom home — Jul-14

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH
TBM		4.5			100.0	
INSTR. 1			104.5			
Home		10.2			94.3	
Tank		12.4			90.9	
			REPAIR			
0	Yellow		extra	3.60	101.9	24 ✓
1	Blue			3.90	101.6	26
2	Pink			4.10	101.4	23 ✓
3	Red	4.8		3.80	100.7	25
4	Orange			4.30	100.2	29 ✓
5	Yellow			4.80	99.7	34
6	Blue			5.60	98.9	42
7	Pink			6.10	98.4	57 ✓
8A	Red			6.70	97.8	31 ✓
			SYSTEM			
8B	Red			6.70	97.8	38 ✓
9	Orange			7.40	97.1	69 ✓
10	Yellow			8.10	96.4	73 ✓
11	Blue			8.90	95.6	87 ✓
					TOTAL	558

	LINE LENGTH	LTAR GPD/FT	SYSTEM TYPE	REDUCTION TYPE	DISTRIBUTION
SYSTEM	267	0.300	PPBPS	50%	LPP
REPAIR	267	0.300	PPBPS	50%	LPP

OK 8-11-14

Notes:

** TBM located on top of ground EIP at bend

**TBM is assumed to be 100'

**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS and FS indicate rod readings

Kemp Road

System (PPBPS)

DESIGN SPECIFICATIONS

Line #	Color	#Panels	#Holes Panel	Line Length	Hole Size	Line Head	Line Flow
8b	Red	8	1	38	5/32"	2	3.28 ✓
9	Orange	15	1	69	5/32"	2	6.15 ✓
10	Yellow	16	1	73	5/32"	2	6.56 ✓
11	Blue	20	1	87	5/32"	2	8.20 ✓
		59		267			24.19

OK - 8/18/11

CALCULATIONS

Location	Kemp Road	
Lot No:	194	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
Innovative? (YES OR NO)	no	
Supply Line Length	85	ft.
Supply Line Volume	14.79	gal.
Required Feet of Line	267	ft.
Amount of Line from Layout	267	ft.
Gallons per Minute	24.19	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	174.351	gal.
Dosing Volume	212	gal.

Note: Dosing Volume 59 panels times 3.6 gallons

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
28	1.58
30	1.78
31.51	1.96
35	2.37
36	2.50
40	3.03
42.4	3.39
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

Tank Draw Down	10.1	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	8.8	minutes
Elevation Head	12	ft.
Pressure Head	2	ft.
Friction Factor	1.27	ft./100 ft. *(From the interpolater.)*
Friction Head	3.39	ft.
Total Dynamic Head (+15%)	20.00	ft.

OK - 8-11