ROLLANS *Soil & Environmental Services, Inc.*

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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 #641 in THE POINT Subdivision, Iredell County, North Carolina.

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May 21, 2007
Project #: 01-1195
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: COURTLAND PROPERTIES

Address: PO BOX 3190
Mooresville, NC 28117
Phone: 704-363-1622
County: Iredell
Location: THE POINT Subdivision Lot #641

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 26.96538462

Design Specifications

Drainfield Size: 285
Loading Rate: 0.3 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: 260
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 45.24
Dosing Volume: 176.08
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: 4.63
Elevation Head: 13.50
Total Dynamic Head: 23.15

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral (4)
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

THE POINT Subdivision Lot #641
LP PPBPS

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.3 gpd/ft.2
TOTAL AREA TRENCH BOTTOM:	855
TOTAL LATERAL LENGTH:	285
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	266.6666667
SUPPLY LINE LENGTH:	260
TOTAL DYNAMIC HEAD:	23.15
MANIFOLD SIZE:	N/A
DOSING VOLUME:	176.08
PUMP TANK DRAW DOWN*:	5.7
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.*

THE POINT LOT 641

Project #: 01-1195

LAYOUT FOR 4 BEDROOM HOME

May 21, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		3.7			100.00		
INSTR. 1			103.70				
HOUSE CNR				14.00	89.70		
P. TANK				11.40	92.30		
1	***RED***			***2.90***	***100.80***	***40***	***40***
2	***BLUE***			***3.70***	***100.00***	***60***	***60***
3	***PINK***			***4.50***	***99.20***	***75***	***75***
4	***ORANGE***			***5.60***	***98.10***	***75***	***75***
5	***RED***			***6.60***	***97.10***	***35***	***35***
6	***RED***			***6.60***	***97.10***	***35***	***35***
7	BLUE			8.00	95.70	71	71
8	PINK			9.50	94.20	71	71
9	ORANGE			10.90	92.80	61	61
10	RED			12.50	91.20	42	42
					Total	565	565

Rep

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*285*	*0.3*	*MOD.*	*0.30*	*PPBPS*	*LOW PRESSURE*
Repair	280	0.3	MOD.	0.30	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

CALCULATIONS

Location THE POINT

Project Number

Lot No: 641

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	gpd/ft2
PPBPS? (YES OR NO)	YES	
Supply Line Length	260	ft.
Supply Line Volume	45.24	gal.
Required Feet of Line	266.6667	ft.
Amount of Line from Layout	285	ft.
Gallons per Minute	26.96538	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Panel Volume	3.6	gal.
# of Panels	73	
Dosing Volume	176.08	gal.

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

Tank Draw Down	5.7	*Generic Draw Down of 31 gal.per in.*
Pump Run Time	6.53	minutes
Elevation Head	13.5	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(From the interpolater.)*
Friction Head	4.63	ft.
Total Dynamic Head (+15%)	23.15	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

Service Center - Raleigh, NC 27699-1639 - Phone No. (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR Roger A Sherrill
WELL CONTRACTOR CERTIFICATION # 2224

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☑ Industrial ☐ Agricultural ☐ Monitoring ☐ Recovery ☐ Heat Pump Water Injection ☐ Other ☑ If Other, List Use: Never used

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: Mooresville County Iredell T-44
The Point Brawley School Rd Lot 641
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: Crescent Resources

4. ADDRESS:

5. TOPOGRAPHY: draw, slope, hilltop, valley, (flat)

6. TOTAL DEPTH: 1000 ' (circle one) DIAMETER 8"

7. CASING REMOVED:

feet	diameter

8. DISINFECTION: 2 LBS
(Amount of 70% hypochlorite used:)

9. SEALING MATERIAL:

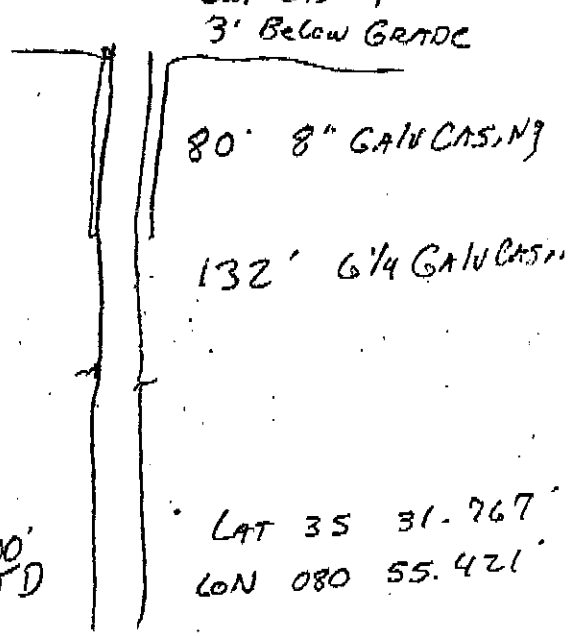
Neat Cement
bags of cement
gallons of water

Sand Cement
bags of cement
gallons of water

Other
Type material Flowable Fill
Amount 8 yards

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
Poured From Truck

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



11. DATE WELL ABANDONED 12-23-05

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Roger A Sherrill Date 12-23-05

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99

(Lot 641)