IREDELL COUNTY HEATLH DEPARTMENT

PAGE 2: *SITE PLAN WORKSHEET*

SEE THE SAMPLE SITE PLAN BELOW. INCOMPLETE SITE PLANS WILL BE RETURNED TO YOU FOR COMPLETION AND MAY RESULT IN A DELAY IN THE ISSUANCE OF YOUR SEPTIC SYSTEM PERMIT!!!

Place an (X) beside each item as you complete the site plan:

____ Property Line measurements are clearly identified…
____ All proposed structures are indicated…
SHOW: proposed house or business footprint, wells, water lines, patios, pools and decks, and any other item that will occupy space on the site
____ Front and side setbacks from property line…
____ Preferred driveway location and configuration, preferred well location…
____ Area you prefer your septic system to be placed…
____ North arrow, or other sufficient indicator of direction…

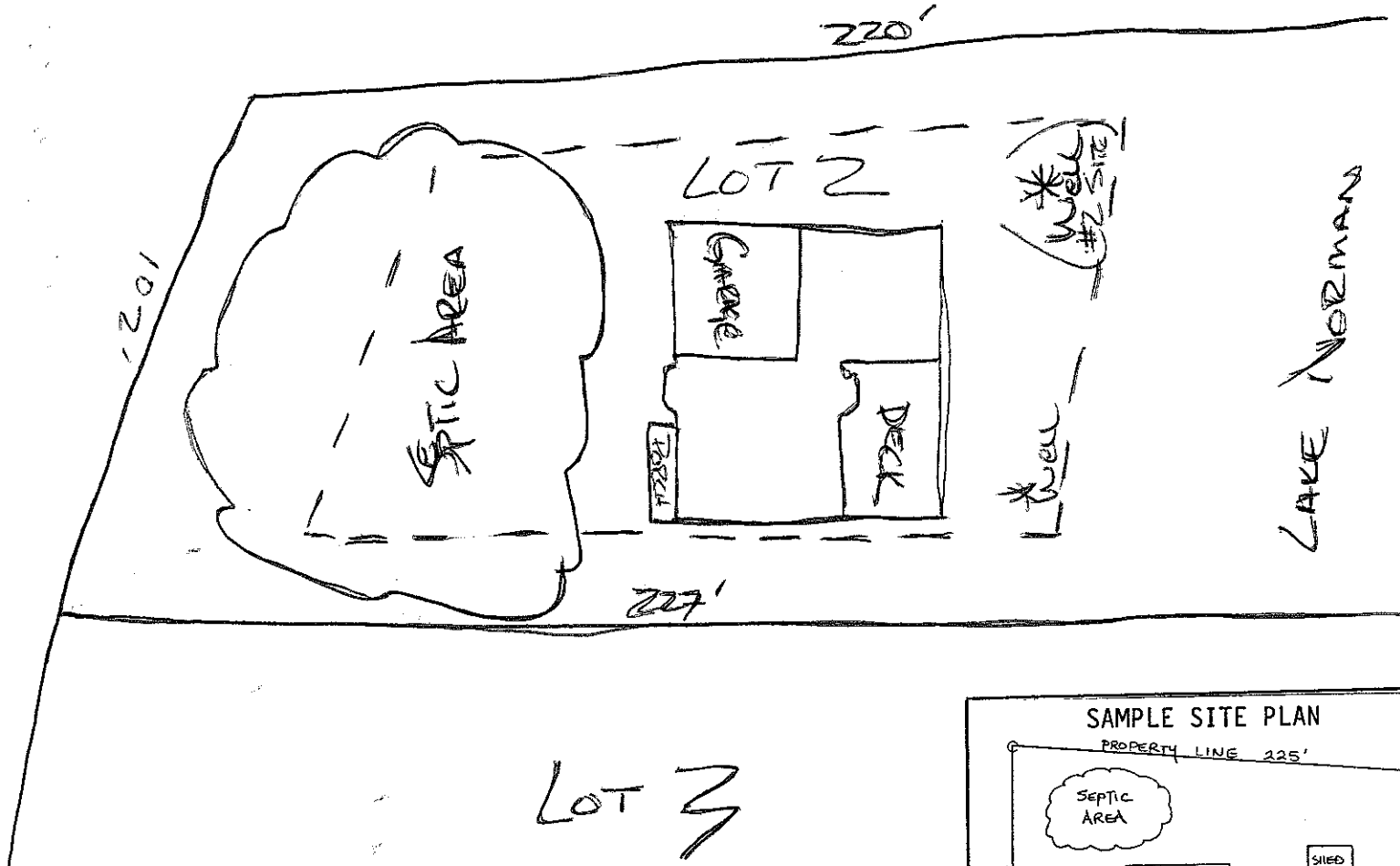
Circle N/A on the following if appropriate:

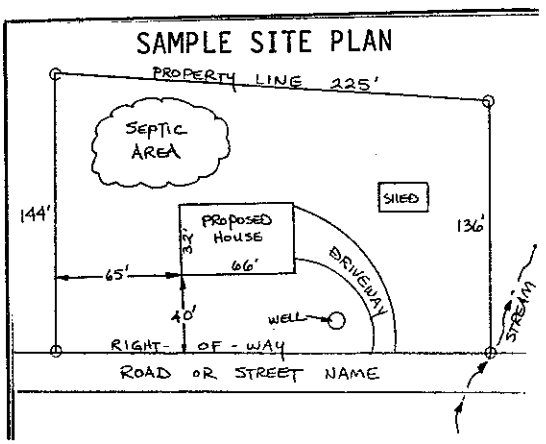
____ Location of septic systems and wells within 100' of your property… N/A
____ Location of easements and rights of ways on your property… N/A
____ Location of any designated wetlands on the property… N/A

Signature: Diane Landrew
Property owner or owner's legal representative signature (SIGNATURE REQUIRED)

8-25-05
DATE

USE THIS SPACE TO DRAW YOUR SITE PLAN





ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

2120 Graham Road, Mount Ulla, NC 28125 *Phone/Fax (704) 278 – 0989*

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
E-mail: Rollansfortcj@aol.com

Brady Freeman, Registered Sanitarian
Mobile: (704) 746-6497
E-mail: bfree209@yahoo.com

Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 4 bedroom single family residence on BEATEN PATH LOT 2

Contents: **Page**

Information for the Installer---------- 1

Design Information
- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5

Calculations---------- 6

Site Plan/System Plan---------- 7

Profile Descriptions---------- 8

September 12, 2005
Design by : Rollans Soil & Environmental Services

PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: BO OF NC

Address: 249 Williamson Rd. STE 101
Mooresville, NC 28117
Phone: 704-696-2662
County: Iredell
Location: Beaten Path lot 2

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 26.3

Design Specifications

Drainfield Size: 297'
Loading Rate: 0.3 gpd/ft.^{2}
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: 36 in.
Trench Width: 24 in.
Septic Tank Size: 1000
Pump Tank Size: 1000

Estimated Supply Line Length: 155'
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 22.27
Dosing Volume: 164.00
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: 2.28
Elevation Head: 26.00
Total Dynamic Head: 34.82

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral (4)
Check Valves: In Tank
Anti-Siphon Hole: NA

BEATEN PATH LOT 2
LOW PRESSURE PPBPS DESIGN

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}
TOTAL AREA TRENCH BOTTOM:	570
TOTAL LATERAL LENGTH:	297
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	267
SUPPLY LINE LENGTH:	128
TOTAL DYNAMIC HEAD:	34.82
MANIFOLD SIZE:	N/A
DOSING VOLUME:	164.00
PUMP TANK DRAW DOWN*:	7.8
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.*

FOR 4 BEDROOM HOME

April 17, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		4.6			100.00		
INSTR. 1			104.60				
HOUSE CNR				11.60	93.00		
P. TANK				21.90	82.70		
1	***RED***			***2.90***	***101.70***	***55***	***55***
2	***BLUE***			***4.30***	***100.30***	***55***	***55***
3	***PINK***			***5.60***	***99.00***	***52***	***52***
4	***ORANGE***			***7.10***	***97.50***	***50***	***50***
5	***RED***			***8.40***	***96.20***	***45***	***45***
6	***BLUE***			***10.00***	***94.60***	***40***	***40***
					Total	297	297

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
****System***	***297***	***0.3***	***MOD.***	***0.30***	***PPBPS***	***LOW PRESSURE***
Repair	NOT REQUIRED				NOT REQUIRED	

**TBM located on EIP noted on 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

***** Repair not required deeded before 1983***

BEATEN PATH LOT 2

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	# of holes
1	***RED***	101.7	***55***	.156	**0.41**	13.00
2	***BLUE***	**100.3**	***55***	.156	**0.41**	13.00
3	***PINK***	99	***52***	.156	**0.41**	12.00
4	***ORANGE***	97.5	***50***	.156	**0.41**	11.00
5	***RED***	96.2	***45***	.156	**0.41**	10.00
6	***BLUE***	94.6	***40***	.156	**0.41**	9.00

total	**feet =**	**297**	**gal/min =**	**27.88**
		Des. Flow	**480**	
		Pump Run=	**5.86**	
		soil LTAR	**0.3**	

.156=5/32 in. hole

# of holes represents number of panels

CALCULATIONS

Location : Beaten Path lot 2

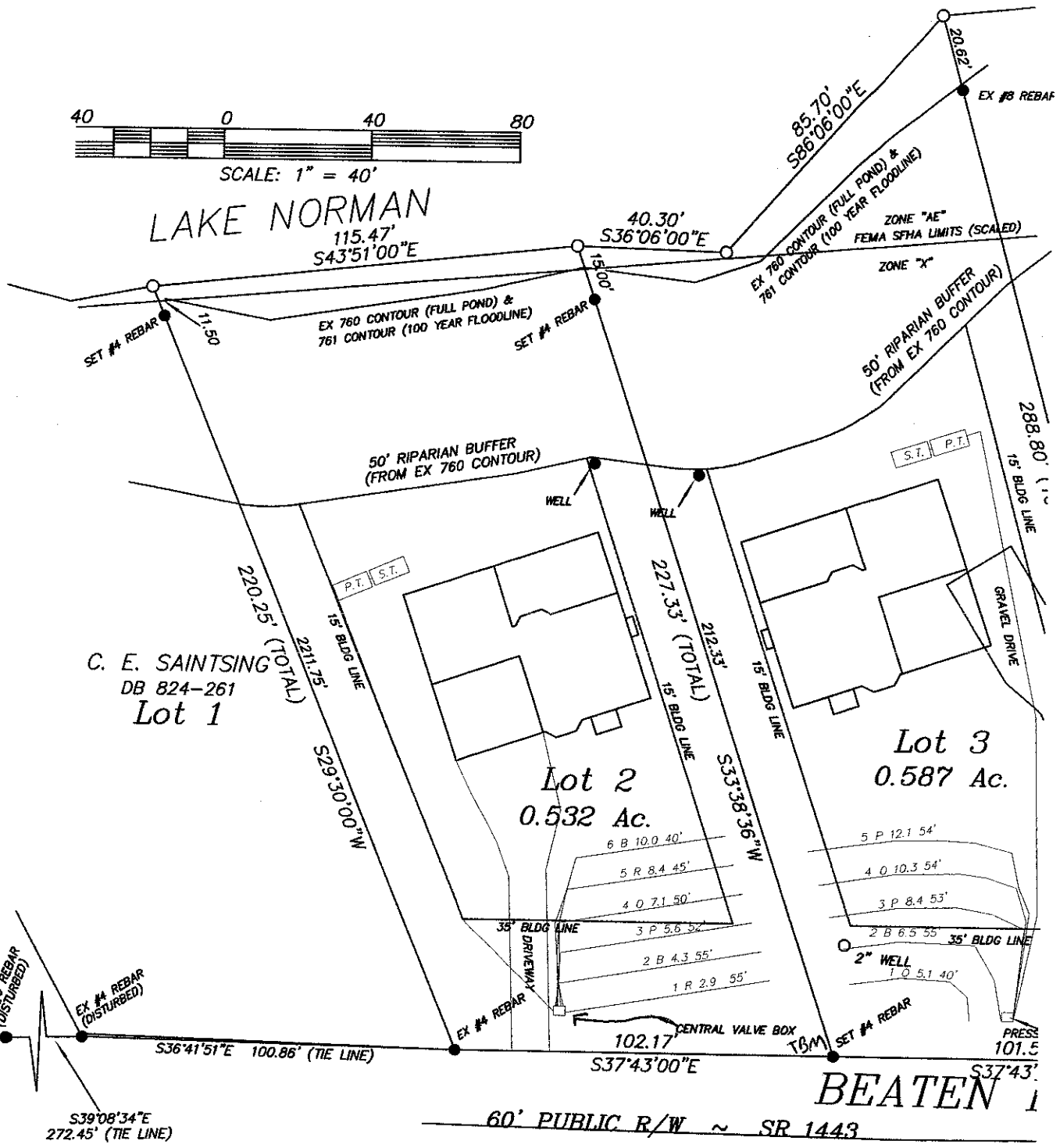
Lot No:		
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	128	ft.
Supply Line Volume	22.272	gal.
Required Feet of Line	267	ft.
Amount of Line from Layout	297	ft.
Gallons per Minute	26.3	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	68	
Dosing Volume	164.00	gal.

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

Tank Draw Down	7.8	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	26	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(From the interpolater.)*
Friction Head	2.28	ft.
Total Dynamic Head (+15%)	34.82	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


40 0 40 80
SCALE: 1" = 40'
LAKE NORMAN
115.47'
S43°51'00"E
40.30'
S36°06'00"E
85.70'
S86°06'00"E
20.62'
EX #8 REBAR
EX 760 CONTOUR (FULL POND) &
761 CONTOUR (100 YEAR FLOODLINE)
ZONE "AE"
FEMA SFHA LIMITS (SCALED)
ZONE "X"
15.00'
SET #4 REBAR
11.50
SET #4 REBAR
EX 760 CONTOUR (FULL POND) &
761 CONTOUR (100 YEAR FLOODLINE)
50' RIPARIAN BUFFER
(FROM EX 760 CONTOUR)
50' RIPARIAN BUFFER
(FROM EX 760 CONTOUR)
288.80'
15' BLDG LINE
WELL
WELL
S.T.
P.T.
P.T.
S.T.
220.25' (TOTAL)
2211.75'
S29°30'00"W
15' BLDG LINE
227.33' (TOTAL)
212.33'
S33°38'36"W
15' BLDG LINE
GRAVEL DRIVE
C. E. SAINTSING
DB 824-261
Lot 1
Lot 2
0.532 Ac.
Lot 3
0.587 Ac.
6 B 10.0 40'
5 R 8.4 45'
4 O 7.1 50'
3 P 5.6 52'
2 B 4.3 55'
1 R 2.9 55'
35' BLDG LINE
DRIVEWAY
5 P 12.1 54'
4 O 10.3 54'
3 P 8.4 53'
2 B 6.5 55'
35' BLDG LINE
2" WELL
1 O 5.1 40'
EX #6 REBAR
(DISTURBED)
EX #4 REBAR
(DISTURBED)
EX #4 REBAR
CENTRAL VALVE BOX
102.17'
SET #4 REBAR
S36°41'51"E 100.86' (TIE LINE)
S37°43'00"E
S39°08'34"E
272.45' (TIE LINE)
60' PUBLIC R/W ~ SR 1443
BEATEN