GRAVITY PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Scott & Dana Graves

Address: 149 Riverwood Road
Mooresville, NC 28117

Phone: 336.469.2180

County: Iredell

Location: CL&T Lot 51

Source of Wastewater Flow: 4 Bedroom Single Family Residence

Estimated Daily Wastewater Production: 480 gpd

System Flow: NA

Design Specifications

Drainfield Size: 73

Loading Rate: 0.3

Depth of Gravel in Trench: NA (PPBPS)

Gravel Size: NA (PPBPS)

Trench Depth: 30 in.

Trench Width: 24 in.

Septic Tank Size: 1000

Pump Tank Size: NA

Estimated Supply Line Length: 3

Supply Line Diameter: 3 in. SCH 40 PVC

Supply Line Volume: 1.14

Dosing Volume: N/A

Supply Manifold: N/A

Supply Manifold Length: N/A

Supply Manifold Volume: N/A

Recommended Float Controls: N/A

Recommended Control Panel: N/A

Pressure Head: N/A

Friction Head: N/A

Elevation Head: N/A

Total Dynamic Head: N/A

Threaded Union: N/A

Gate Valves: N/A

Check Valves: N/A

Anti-Siphon Hole: N/A

Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

CL&T Lot 51
GRAVITY PPBPS

DESIGN FLOW:	120
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	146
TOTAL LATERAL LENGTH:	73
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	67.00
SUPPLY LINE LENGTH:	3
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

CL&T Lot 51

Project #:01-1997

LAYOUT FOR 4 BEDROOM HOME

July 28, 2014

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1 HOUSE CNR P. TANK							
1	BLUE					59	30
2	PINK					54	39
3	RED					36	34
4	RED					56	56
5	ORANGE					56	56
7	***ORANGE***	***(EXISTING BED; 15' WIDE)***				***72'***	***72'***
					Total	261	215

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
Existing Bed	**15' x 72'**		**Conv.**		**Bed**	**GRAVITY**
**** System*** (upgrade only)	***73***	***0.3***	***MOD.***	***0.300***	***PPBPS***	***GRAVITY***
Repair (1 bedroom)	142	0.3	MOD.	0.300	PPBPS	LOW PRESSURE

Notes: **Lot recorded prior to January 1, 1983. Exempt from Repair Requirement for 3 bedroom

**All measures in feet

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

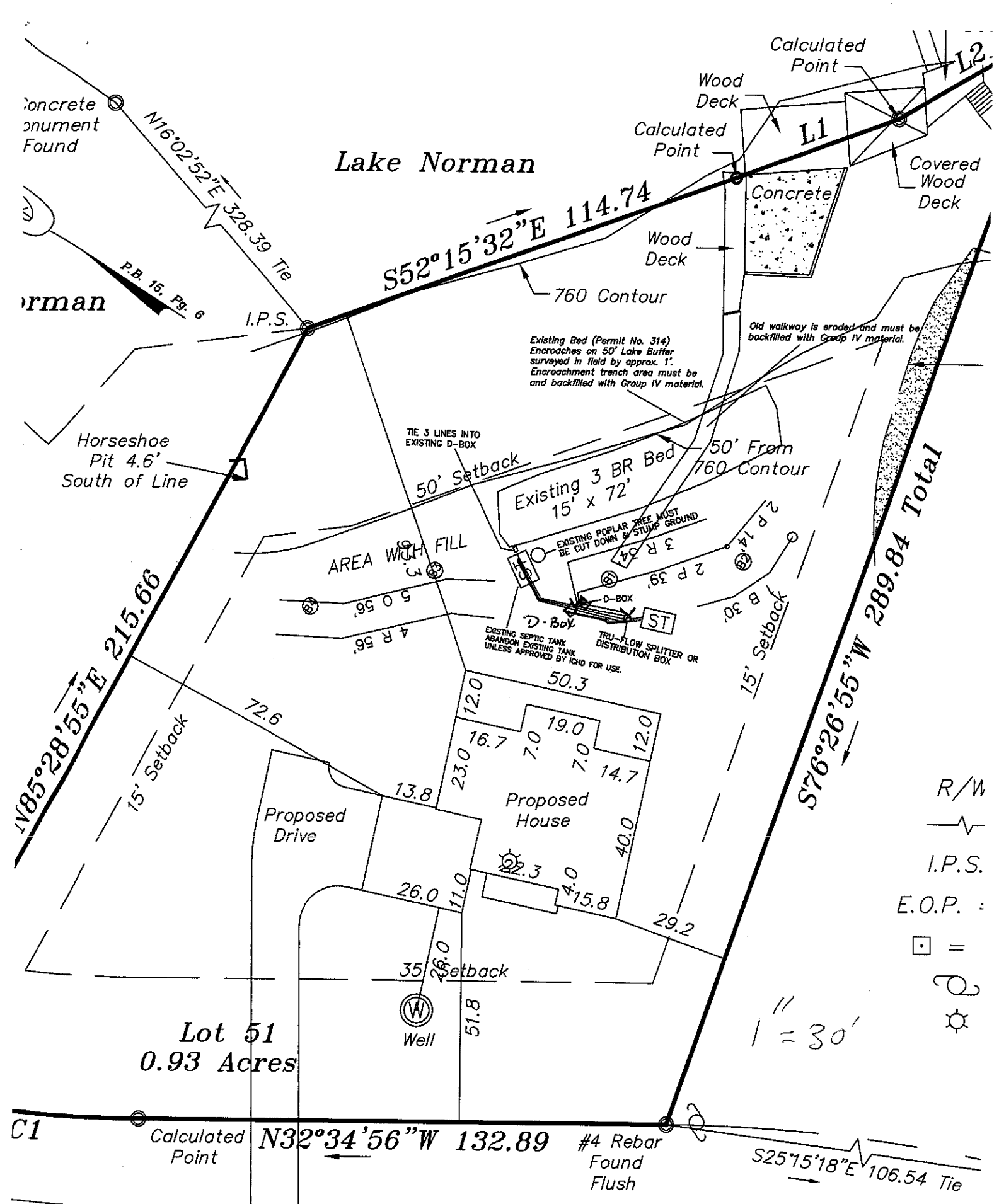
GRAVITY PPBPS SPECIFICATIONS - CL&T LOT 51

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	# of Panels
2	***PINK***	*N/A*	*34*	*N/A*	*N/A*	68	8
3	***RED***	*N/A*	*39*	*N/A*	*N/A*	78	9
						146	17

total	feet =	73	gal/min =	N/A	
		Des. Flow	120		
		Pump Run=	N/A		
		soil LTAR	0.3		
		LTAR +5%	0.315		
		LTAR with mod.	0.6		
		LTAR with mod.. + 5%	0.63		

.156 equals 5/32 inch hole



APPROVED JUL 29 2014

CALCULATIONS

Location CL&T LOT 51 (149 Riverwood Road)

Project Number 01-1706

Lot No:	51
Total No. of Bedrooms	4
Design Flow for Upgrade (1 BR)	120 $^{gal}/_{day}$
LTAR	0.3 $^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES
Supply Line Length	3 ft.
Supply Line Volume	1.14 gal.
Required Feet of Line (Upgrade)	67 ft.
Amount of Line from Layout	73 ft.
Gallons per Minute	NA $^{gal}/_{min}$
Required Septic Tank Capacity	1000 gal.
Minimum Standard Tank Size	1000
Panel Volume	3.6 gal.
# of Panels	17
Dosing Volume	N/A gal.
Tank Draw Down	N/A
Pump Run Time	N/A minutes
Elevation Head	N/A ft.
Pressure Head	N/A ft.
Friction Factor	N/A ft./100 ft. *(From the interpolater.)*
Friction Head	N/A ft.
Total Dynamic Head (+15%)	N/A 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

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet 1 of 1
PROPERTY ID #: 4637253590
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Scott & Dana Graves
ADDRESS: 149 Riverwood Road, Mooresville NC 28117
PROPOSED FACILITY: 4BR
PROPOSED DESIGN FLOW (.1949): 480 gpd
LOCATION OF SITE: 150 v, Lt on McRary, Lt on Riverwood, Lot on Rt.
WATER SUPPLY: ☒ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☒ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

APPLICATION DATE 6/14
DATE EVALUATED: 6/14
PROPERTY SIZE: 0.93ac.
PROPERTY RECORDED: 1975

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
B 1	L/6%	0-12	B l sr	FrSSSPSExP		48	–	–	PS 0.3
		12-30	RR l-cl wfsbk	" " " "					
		30-48	RBc mmsbk	" " " "					
B 2	L/5%	0-6	B l sr	FrSSSPSExP		48	–	–	PS 0.3
		6-12	BRcl wfsbk	" " " "					
		12-26	RBc mmsbk	" " " "					
		26-48	Rc mmsbk	" " " "					
B 3	L/9%	0-9	Fill			50"	–	–	PS 0.3
		9-13	B l sr	FrSSSPSExP					
		13-20	BRcl wfsbk	" " " "					
		20-40	RBc mmsbk	" " " "					
		40-46	Rc mmsbk	" " " "					
		46-54	Rcl wfsbk	" " " "	-f-c sap				
B 4	L/15	0-6	Fill			53"	–	–	PS 0.275- 0.3
		6-30	RB cl wfsbk	FrSSSPSExP					
		30-36	RB c wmsbk	" " " "					
		36-54	Rc wmsbk	" " " "					
		54-59	RYcl wfsbk	" " " "	-f sap				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS Repair Exempt
System Type(s)	Hybrid - Bed & PPBPS	PPBPS
Site LTAR	0.3	0.3

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: Samuel A. Rollins
OTHER(S) PRESENT:

COMMENTS:

APPROVED JUL 29 2014
AZP