Permit 221300

ROLLANS *Soil & Environmental Services, PA.*

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Attached is a proposed design for an Upgrade of an Existing Conventional Septic System (Gravity 3BR) to a 5 bedroom Gravity (2BR added in Basement) at 275 Treebark Road, Statesville, NC 28625, (PIN 4728121558), Iredell County, NC.

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8/24/16

August 22, 2016
Project #: 01-3218
Design By: Rollans Soil & Environmental Services, PA

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 NC DENR, 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 placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- 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 trenches.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a gravity 25% reduction (Accepted) installation for Upgrade (2BR).
- Repair is specified as a low pressure PPBPS (50% reduction) installation.
- **Existing Septic Tank must be pumped and properly abandoned.**

GRAVITY ACCEPTED SYSTEM FOR WASTEWATER TREATMENT

Applicant: Rollans Soil

Address: P.O. Box 832
Mooresville, NC 28115

Phone: 704.746.5046

County: Iredell

Location: 275 Treebark Road
PIN (4728121558)

Source of Wastewater Flow: 5 Bedroom Single Family Residence

Estimated Gallons Per Day Flow: 600

System Flow: N/A

Design Specifications

Drainfield Size: 200' (Upgrade Only) 600' Total

Loading Rate (gpd/ft.^{2}): 0.3

Depth of Gravel in Trench: N/A

Gravel Size: N/A

Trench Depth: 34 in. Repair Trench Bottom 34 in.

Trench Width: 36 in.

Septic Tank Size: 1500

Estimated Supply Line Length: 10

Supply Line Diameter: 4 in. SCH 40 PVC

Supply Line Volume: 9.80

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

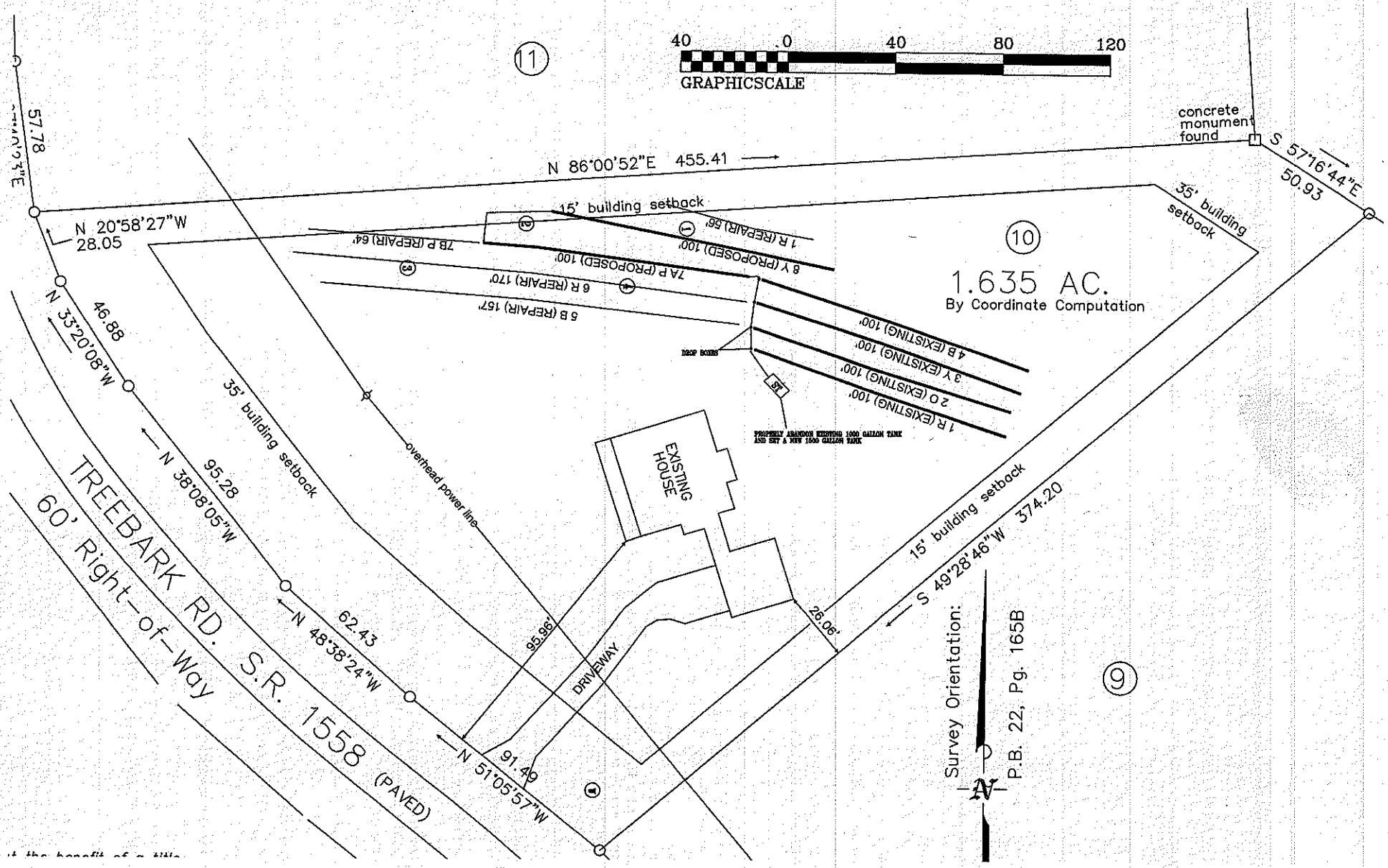
Anti-Siphon Hole: N/A

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

275 Treebark Road

ACCEPTED SYSTEM

DESIGN FLOW (gpd):	600
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	600
TOTAL LATERAL LENGTH:	200
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	200
SUPPLY LINE LENGTH:	15
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1500


11
40 0 40 80 120
GRAPHICSCALE
57.78
N 86°00'52"E 455.41
concrete monument found
S 57°16'44"E 50.93
N 20°58'27"W 28.05
15' building setback
35' building setback
1 R (REPAIR) 66'
8 Y (PROPOSED) 100'
7B P (REPAIR) 64'
7A P (PROPOSED) 100'
6 R (REPAIR) 170'
5 B (REPAIR) 167'
4 B (EXISTING) 100'
3 Y (EXISTING) 100'
2 O (EXISTING) 100'
1 R (EXISTING) 100'
DROP BOXES
PROPERLY ABANDON EXISTING 1000 GALLON TANK AND SET A NEW 1500 GALLON TANK
10
1.635 AC.
By Coordinate Computation
N 33°20'08"W 46.88
N 38°08'05"W 95.28
N 48°38'24"W 62.43
N 51°05'57"W 91.49
35' building setback
overhead power line
95.98'
EXISTING HOUSE
DRIVEWAY
28.06'
15' building setback
S 49°28'46"W 374.20
9
Survey Orientation:
P.B. 22, Pg. 165B
N
TREEBARK RD. S.R. 1558 (PAVED)
60' Right-of-Way

Layout Specifications - 275 Treebark Road

Project #: 01-3218

LAYOUT FOR 5 BEDROOM HOME

August 22, 2016

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	***RED***		***EXISTING***			***100***	***100***
2	***ORANGE***		***EXISTING***			***100***	***100***
3	***YELLOW***		***EXISTING***			***100***	***100***
4	***BLUE***		***EXISTING***			***100***	***100***
5	BLUE					157	157
6	RED					170	170
7A	***PINK***		PROPOSED			***100***	***100***
7B	PINK					64	64
8	***YELLOW***		PROPOSED			***107***	***100***
9	ORANGE					56	56
					Total	**1054**	**1047**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
**** System*** (Upgrade Only)	***200***	***0.300***	*****Hybrid***	***0.300***	***25% RED***	***GRAVITY (Serial Distribution)***
Repair	447	0.300	MOD.	0.300	PPBPS	LOW PRESSURE

Notes: **All measures in feet

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

****Septic Lines located via NC Licensed Surveyor**

CALCULATIONS

Location 275 Treebark Road, Statesville, NC 28625

Project Number 01-3218

Lot No: 10 Watson Farm Subdivision

No. of Bedrooms (Total) 5
No. of Bedrooms (Upgrade) 2
Design Flow 600 $^{gal}/_{day}$

LTAR 0.300 $^{gal}/_{ft^2\ day}$

PPBPS? (YES OR NO) NO

Supply Line Length 15 ft.

Supply Line Volume 9.795 gal.

Required Feet of Line (Upgrade Only) 200 ft.
Amount of Line from Layout 200 ft.

Gallons per Minute N/A $^{gal}/_{min}$

Required Septic Tank Capacity 1500 gal.
Septic Tank Size 1500 gal.

Panel Volume N/A gal.
# of Panels N/A
Dosing Volume N/A gal.

Tank Draw Down N/A

Pump Run Time

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 HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

Sheet 1 of 1
PROPERTY ID #: 4782125552
COUNTY: Iredell

SOIL/SITE EVALUATION
***for* ON-SITE WASTEWATER SYSTEM**
(Complete all fields in full)

OWNER: Benjaman Hyde
ADDRESS: 275 Treebark Rd Statesville NC 28625
PROPOSED FACILITY: 5BR
PROPOSED DESIGN FLOW (.1949): 600GPD
LOCATION OF SITE: 275 Treebark Rd. Statesville NC 28625
APPLICATION DATE: Aug 2016
DATE EVALUATED: Aug 2016
PROPERTY SIZE: ± 1.635
PROPERTY RECORDED: Yes

WATER SUPPLY: ☐ Private ☐ Public ☑ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☑ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

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
B1 1	12%	0-13	BSL SR	FrSSSPSEXP		50	-	-	.3
		13-29	BRCL MSBK	" " " "					
		29-50	RBC MSBK	" " " "					
B2 2	5%	0-14	BSL SR	FrSSSPSEXP		50	-	-	.3
		14-36	BRCL MSBK	" " " "					
		36-50	RBC MSBK	" " " "					
B3 3	5%	0-13	BCL WSBK	FrSSSPSEXP		50	-	-	.3
		13-50	RBC WSBK	" " " "					
B4 4	4%	0-24	BRCL MSBK	FrSSSPSEXP		50	-	-	.3
		24-37	RBC MSBK	" " " "					
		37-50	RC MSBK	" " " "					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	Hybrid Conv/Accept	PPBPS
Site LTAR	0.3	0.3

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

COMMENTS: