ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

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Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 3 bedroom single family residence on Lot #24 Oak Ridge Subdivision, Iredell County, North Carolina.

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December 12, 2006
Project #: 01-1296
Design By: Rollans Soil and Environmental Services

Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner: Corinthian Development LTD

Address: P.O. Box 3421
Mooresville, NC 28117
Phone: 704-664-4822
County: Iredell
Location: Oak Ridge Subdivision Lot #24

Source of Wastewater Flow: 3 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 360 gpd
System Flow: NA

Design Specifications

Drainfield Size: 300
Loading Rate: 0.3
Depth of Gravel in Trench: NA (25% reduction)
Gravel Size: NA (25% reduction)
Trench Depth: 18 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: N/A

Estimated Supply Line Length: 19
Supply Line Diameter: 3 in. SCH 40 PVC
Supply Line Volume: 3.31
Dosing Volume: NA
Supply Manifold: DROP BOX
Supply Manifold Length: NA
Supply Manifold Volume: N/A

Recommended Float Controls: NA

Recommended Control Panel: NA

Pressure Head: NA
Friction Head: NA
Elevation Head: NA
Total Dynamic Head: NA

Threaded Union: NA
Gate Valves: NA
NA
Check Valves: NA
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services.

CALCULATIONS

Location OAK RIDGE SUBDIVISION

Project Number 01-1296

Lot No: Lot 24

No. of Bedrooms 3

Design Flow 360 $^{gal}/_{day}$

LTAR 0.3 $^{gal}/_{ft^2\,day}$

25% RED.? (YES OR NO) YES

Supply Line Length 19 ft.

Supply Line Volume 3.306 gal.

Required Feet of Line 300 ft.
Amount of Line from Layout 300 ft.

Gallons per Minute NA $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Lateral Line Volume 195.9 gal.

Dosing Volume NA gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down NA *Generic Draw Down of 21 gal.per in.*

Pump Run Time NA minutes

Elevation Head NA ft.
Pressure Head NA ft.
Friction Factor NA ft./100 ft. *(From the interpolater.)*
Friction Head NA ft.

Total Dynamic Head (+15%) NA 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

Oak Ridge Subdivision Lot #24

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	900
TOTAL LATERAL LENGTH:	300
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	300
SUPPLY LINE LENGTH:	19
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

OAK RIDGE LOT #24

Project #: 01-1296

LAYOUT FOR 3 BEDROOM HOME — December 12, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
TANK			N/A	N/A			
HOUSE			N/A	N/A			
INSTR. 1				N/A			
1	*ORANGE*			*N/A*	*N/A*	*134*	*100*
2	*DARK PINK*			*N/A*	*N/A*	*181*	*100*
3	*BLUE*			*N/A*	*N/A*	*201*	*100*
4	PINK			N/A	N/A	159	159
5	ORANGE			N/A	N/A	130	130
6	DARK PINK			N/A	N/A	109	109
7	BLUE			N/A	N/A	101	101
					Total	**1015**	**799**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*300*	*0.30*	*ACCEPT.*	*0.30*	*25% RED.*	**GRAVITY DISTRIBUTION**
Repair	499	0.30	*ACCEPT.*	0.30	25% RED.	GRAVITY DISTRIBUTION

Notes:

** TBM NOT REQUIRED

**All measures in feet

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

**BS, HI, and FS indicate rod readings