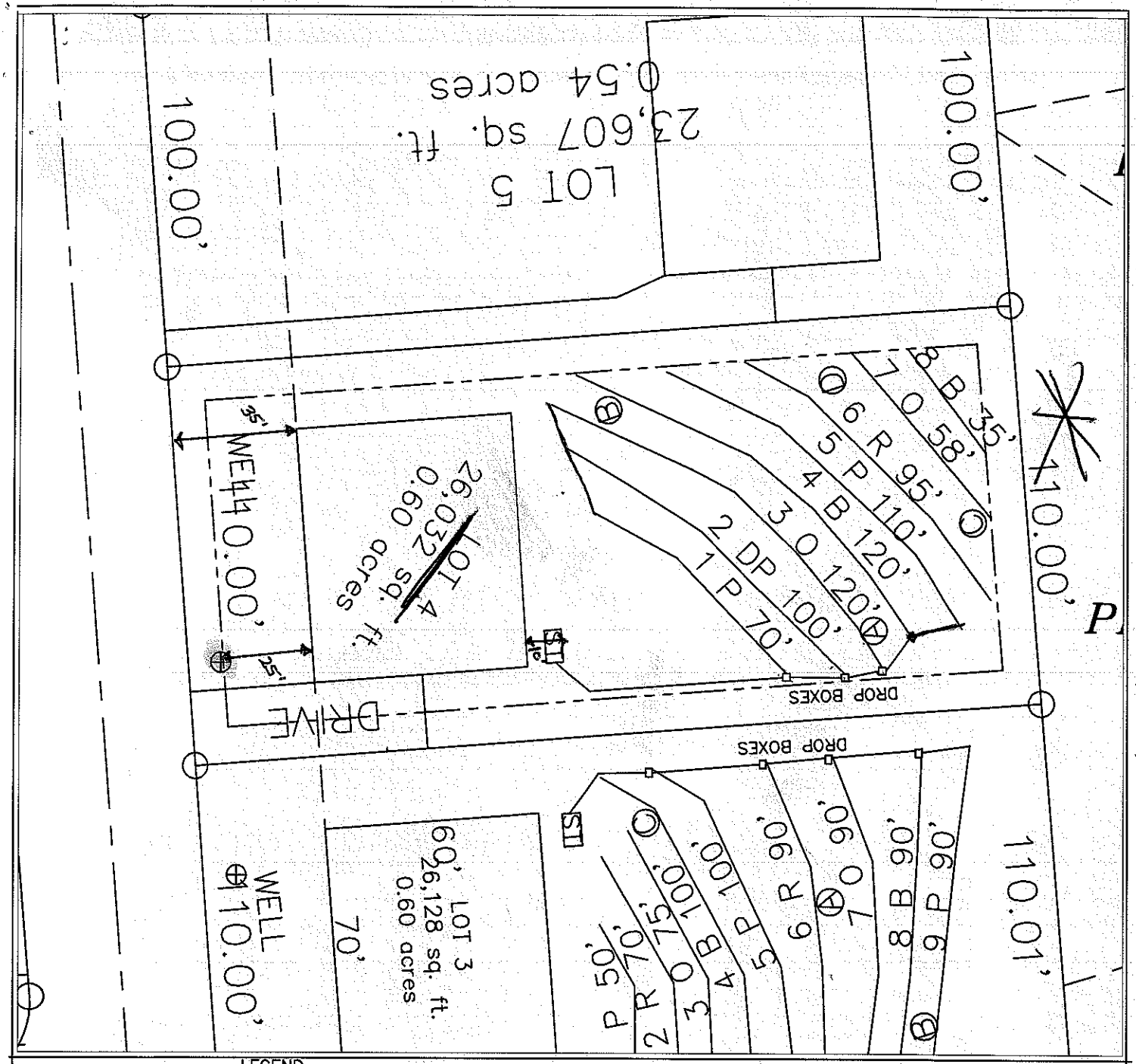


LEGEND

- House Box.
- System lines.
- Repair lines.
- House Corner Shot.
- T.B.M.

GRAPHIC SCALE
1" = 40'

40 0 40 80

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

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
EMAIL: ROLLANSFORTC@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: Orchard Farms LLC/ AUTUMN GROVE

LOCATION/DATE: FERNHILL, BULLSNICH RD IREDELL COUNTY, NORTH CAROLINA FEBRUARY 2007

JOB # : 01-1043
FILE: C:\JOBS\01-1043
PROJECT MGR.: C.B.F.
FIELD WORK: C.B.F. & A.L.P.
DRAWN BY: C.B.F.

FOR WASTEWATER TREATMENT

Owner: E&J DEVELOPMENT

Address: 227 Hideaway Lane
Mooresville, NC 28117
Phone: 704-201-6465
County: Iredell
Location: AUTUMN GROVE LOT #4

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow: 480
System Flow: 480

Design Specifications

Drainfield Size: 410
Loading Rate (gpd/ft.^{2}): 0.3
Depth of Gravel in Trench: NA (25% reduction)
Gravel Size: NA (25% reduction)
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: n/a

Estimated Supply Line Length: 65
Supply Line Diameter: 3 in. SCH 40 PVC
Supply Line Volume: 11.31
Dosing Volume: n/a
Supply Manifold: drop box
Supply Manifold Length: n/a
Supply Manifold Volume: N/A

Recommended Float Controls: n/a
n/a
Recommended Control Panel: n/a
n/a

Pressure Head: N/A
Friction Head: N/A
Elevation Head: N/A
Total Dynamic Head: N/A

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.

AUTUMN GROVE LOT #4

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1230
TOTAL LATERAL LENGTH:	410
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	65
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

AUTUMN GROVE LOT #4

Project #: 01-1043

LAYOUT FOR 4 BEDROOM HOME

August 10, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
INSTR. 1			N/A				
HOUSE CNR				N/A	N/A		
P. TANK				N/A	N/A		
1	***PINK***			***N/A***	***N/A***	***70***	***70***
2	***DARK PINK***			***N/A***	***N/A***	***100***	***100***
3	***ORANGE***			***N/A***	***N/A***	***120***	***120***
4	***BLUE***			***N/A***	***N/A***	***120***	***120***
5	PINK			N/A	N/A	110	110
6	RED			N/A	N/A	95	95
7	ORANGE			N/A	N/A	58	58
8	BLUE			N/A	N/A	35	35
					Total	**708**	**708**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
** System*	*410*	*0.300*	*ACCEPT.*	*0.300*	*25% RED.*	GRAVITY
Repair	298	0.300	*MOD.*	0.300	PPBPS	DISTRIBUTION LOW PRESSURE

Notes:

** TBM located on angle point 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 Autumn Grove

Project Number 01-1043

Lot No: Lot 4

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gpd}/_{ft^2}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	65	ft.
Supply Line Volume	11.31	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	410	ft.
Gallons per Minute	N/A	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	267.73	gal.
Dosing Volume	N/A	gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down	N/A	*Generic Draw Down of 21 gal.per in.*
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

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ___ of ___

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: _____
DATE OF EVALUATION: _____
COUNTY: _____

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P4A	L/6-10	0-32	R cumsbk/Absk	FrSSSP SEXP		55	PS	—	PS 0.275-0.3
		32-55	Rcl wmsbk	v u u w	-D, sap Rockvein, -f, clay incl,				
		55-69	verfg l mass	v u u u					
4B	L 5-8%	0-36	RC SMK	fri SSSP Sea P		48	—	—	3
		36-48	RCL WSMK	fri, SSSP Sea P -	Common SAP				
4C	5-10%	0-28	RC SMK	fri SSSP Sea P					3
		28-45	RCL WSMK	fri SSSP Sea P -	many SAP				
		45-66	LSAF M	fri SSSP					
4D	5-11%	0-6	BSL WK	fri SSSP Sea P		55	—	—	3
		6-33	RC SMK	fri SSSP Sea P					
		33-55	RCL WSMK	fri SSSP Sea P -					
				Common SAP					

COMMENTS: _____